NPDES PROGRAM IMPLEMENTATION REVIEW
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD 5
CENTRAL VALLEY REGION

U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 9
FINAL REPORT - MARCH 2000

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Appendix A: Letter from Mike Schulz, EPA, to John Norton, SWRCB, dated April 5, 1999, regarding State-wide NPDES program issues and their resolution

NPDES REVIEW
SACRAMENTO REGIONAL WATER QUALITY CONTROL BOARD

EXECUTIVE SUMMARY

From September to December 1998, the U.S. Environmental Protection Agency, Region 9 (EPA), conducted a review of the Central Valley Regional Water Quality Control Board's (the Sacramento Board's or Board's) approved National Pollution Discharge Elimination System (NPDES) program. This review assessed the Board's implementation of the NPDES program, and focused on six main NPDES activities: permitting, compliance, storm water, animal feeding operations, pretreatment, and enforcement. EPA conducted its review by evaluating a representative sample of the Board's NPDES program files, documents, and reports, and by conducting interviews of its NPDES program managers and staff. The Sacramento Board's jurisdiction covers nearly 60,000 square miles of land, about 40 percent of the State, including 11,350 miles of streams and 579,110 acres of lakes. The Sacramento Board regulates 53 major and 246 minor NPDES permitted facilities, regulates enrollees under seven different general discharge permits, is responsible for 1,699 industrial facilities and 1,173 construction sites subject to storm water regulations, and regulates four counties and two cities with municipal storm water permits. In addition, 414 significant industries discharge into 39 Publicly Owned Treatment Works (POTWs).

EPA's NPDES program reviews conducted to date at the Los Angeles, San Diego, and Sacramento Boards have revealed issues applicable throughout California. EPA is working with the State Water Resources Control Board (SWRCB) and the Regional Boards to address these State-wide NPDES program issues, as discussed in Appendix A of this report:

- The current lack of State-wide water quality standards for toxic pollutants results in NPDES permit issuance problems at the Regional Boards.
- Adoption of NPDES permits containing compliance schedules for water quality based effluent limitations is not allowable, unless an authorizing provision is contained in the applicable water quality control plan. This issue is not applicable to the Oakland and Sacramento Regional Boards.
- Appropriate receiving water limitations language, for which acceptable model language has been developed by EPA, the SWRCB, and the California Storm Water Quality Task Force, needs to be included in all forthcoming municipal storm water permits.
- Permit fact sheets/statements of basis need to clearly establish that permits are consistent with applicable statutes, regulations, and policy.
- Copies of inspection reports of major permittees, as well as copies of responses from permittees about violation follow-up, must be sent by all Regional Boards to EPA.
- Compliance review of Discharge Monitoring Reports (DMRs) is often not timely.
- Quarterly Non-Compliance Reports need improvement in quality and content.
- Field presence/compliance assessment at NPDES major/minor facilities is not adequate.
- A greater inspection presence in the storm water program for both industrial and construction sites needs to be established by all Regional Boards.
- Pretreatment program expertise needs to be increased, industrial user regulation by the State is needed, and industrial user compliance problems must be addressed by the State.
- All Regional Board penalty actions need to comply with State penalty policies.

CONCLUSIONS--PERMITS

A. Strengths

In some permits, the Sacramento Board is using the Basin Plan narrative toxicity objectives in conjunction with protective numeric criteria to establish water quality based effluent limitations. Some permits contain receiving water monitoring, some require that three species be monitored on a quarterly basis for chronic toxicity, and some have detailed fact sheets justifying permit limits.

B. Required Changes--State-wide Issues

The current lack of State-wide water quality standards for toxic pollutants and a plan of implementation for establishing water quality based effluent limits for toxics and whole effluent toxicity results in NPDES permit issuance problems at the Regional Boards, including the Sacramento Board. Promulgation of the California Toxics Rule (CTR) and the State's adoption of the Inland Surface Waters Plan's Implementation Policy are expected to address this issue. In the interim, Regional Boards should refer to EPA's *Technical Support Document* and to example documents that will be provided by the SWRCB. Permit fact sheets/statements of basis prepared by all Regional Boards need to establish clearly that permits are consistent with applicable statutes, regulations, and policy. Also, appropriate receiving water limitations language, for which acceptable model language has been developed, needs to be included by the Regional Boards in all forthcoming municipal storm water permits; EPA notes the June 17, 1999, adoption by the SWRCB of a policy requiring all Regional Boards to include this model language in permits. The SWRCB and all Regional Boards should keep all MS4 permittees apprised of new developments in Phase II of the storm water program to ensure timely implementation of new requirements.

C. Required Changes Specific to the Sacramento Board

Current NPDES permits need to be issued for those permits which have expired. NPDES permits must contain limits derived using appropriate effluent guidelines unless water quality based effluent limits (WQBELs) are more stringent, and must contain measurable water quality based effluent limits which are based on reasonable potential determinations. Receiving water limitations alone are insufficient when reasonable potential exists. Metals must be limited in permits and reported as "total recoverable."

D. Other Suggestions

All Sacramento Board staff who write NPDES permits should receive NPDES permit writers' training, and new permit writers should work closely with experienced permit writing staff. To protect beneficial uses, the Sacramento Board should issue permits that contain toxicity conditions which require accelerated effluent monitoring for toxicity when effluent toxicity is measured at critical levels. Periodic (i.e., annual) priority pollutant scans should be required of POTWs to ensure that reasonable potential determinations are still valid. To prevent a growing backlog of expired permits, the Sacramento Board should streamline reissuance of uncomplicated lower priority permits, e.g., in batches, and should reissue 20 percent of permits each year to modulate the reissuance workload.

CONCLUSIONS--COMPLIANCE

A. General Conclusion and Strengths

The compliance activities at the Sacramento Board are marginal. Field presence is insufficient to assess compliance at NPDES-permitted facilities and review of reports submitted by dischargers is often neither timely nor thorough. Resource limitations and higher priority activities such as permit issuance and enforcement are most often cited as reasons for the limited activity level. In terms of strengths, the number of NPDES inspections conducted by the Sacramento Board generally meets EPA requirements, and many inspections are unannounced, a good approach. Chain-of-custody forms (or equivalent) are used for all samples.

C. Required Changes--State-wide Issues

The Sacramento Board's field presence/compliance assessment at NPDES major and minor facilities is not adequate. Issues include use of appropriate sampling methods, adequacy of field inspection notes, and depth of on-site review. Inspections conducted by all Regional Boards, including the Sacramento Board, must determine compliance with all NPDES permit requirements, including record keeping, reporting, operation and maintenance (including reviews of operators logs and maintenance records), laboratory methods/certification, sample point locations, compositing techniques, sample preservation and holding times, etc., and need to document compliance or noncompliance with all of the permit requirements. Inspection notes must be kept for at least three years. Copies of inspection reports of major permittees, and copies of responses from permittees about violation follow-up, must be sent by all Regional Boards to EPA. Compliance review of Self-Monitoring Reports (SMRs) is often not timely, especially for minors. All Regional Boards must review SMRs promptly (ideally monthly) in order to ensure that violations are identified and corrected as quickly as possible. The Quarterly Non-Compliance Reports (QNCRs) submitted by all the Regional Boards need improvement in quality and content.

D. Required Changes Specific to the Sacramento Board

The Sacramento Board must develop a tracking system for spills and complaints which includes data on reports, response, and follow-up, and must have a system to track late or non-submittal of SMRs. Inspections cannot be counted as NPDES sampling inspections unless samples are collected in conformance with permit monitoring requirements.

E. Other Suggestions

NPDES sampling inspections are resource intensive, and therefore the Sacramento Board should establish a rationale to determine when such inspections should be conducted, such as conducting detailed sampling inspections (24-hour composites) six months prior to permit reissuance. The Sacramento Board should consider having all inspectors use bound notebooks for note-taking during inspections. The Sacramento Board should consider establishing an automated spill and complaint tracking system for all its offices, like systems used by other Regional Boards.

CONCLUSIONS--STORM WATER

A. Strengths

Industrial Annual Report receipt is tracked by the Sacramento Board, and non-submitters were notified by all three Board offices. Construction storm water inspection coverage in the Sacramento Board's Redding office is good, and the larger sites are inspected several times during the rainy season. Industrial and construction storm water inspections in the Board's Redding and Fresno offices are tracked. Letters advising construction site dischargers of their storm water responsibilities have been sent out yearly by the Board's Redding office. The permittees of the Sacramento Municipal Separate Storm Sewer System (MS4) permit won national recognition for their storm water program.

B. Required Changes--State-wide Issues

The Sacramento Board needs to establish more field presence in the construction and industrial storm water programs, especially in its Sacramento and Fresno offices. A greater inspection presence in the storm water program for both construction and industrial sites needs to be established at all Regional Boards, a State-wide issue.

C. Required Changes Specific to the Sacramento Board

The Sacramento Board needs to review MS4 annual reports and other submissions to ensure compliance with permit requirements. Also, the Board needs to be responsive to legitimate storm water program complaints. Complaints regarding construction sites are not always addressed, specifically by the Board's Sacramento and Fresno offices.

D. Other Suggestions

The Sacramento Board should further develop storm water program expertise and provide more training for the staff, and should critically evaluate the use of Best Management Practices (BMPs) to ensure that proven methods are used to control pollution discharges. The Board's Sacramento office should track storm water inspections. The Sacramento Board should establish internal and external staff contact points for Notice of Intent (NOI) submitters, and for municipal and county storm water coordinators.

CONCLUSIONS--ANIMAL FEEDING OPERATIONS (AFOs)

A. General Conclusion

The Board's Sacramento office maintains a strong enforcement program, given the limited resources available, and actively participates in the Dairy Enforcement Task Force. The Board's Fresno office is taking steps to increase its effectiveness and strengthen its enforcement program by participating in the Southern Central Valley Dairy Enforcement Task Force. However, both offices appear overwhelmed with tracking and inspection duties. The universe of dairies far exceeds the staffing assigned to the program.

B. Strengths

As resources allow, both the Board's Sacramento and Fresno offices maintain a consistent, routine inspection presence and effective compliance tracking. The Fresno office maintains an effective hard copy filing system to support their computerized compliance tracking system, and the Sacramento office maintains well-experienced, knowledgeable staff.

C. Required Changes Specific to the Sacramento Board

Both the Board's Sacramento and Fresno offices need to review on-site files for the required Storm Water Pollution Prevention Plans (SWPPPs), Waste Discharge Requirements (WDRs), NOIs, etc., and to determine permit status for non-filers. If non-filers are found to be discharging, enforcement actions should be taken for the discharge and for the failure to comply with the general permit requirements.

Both the Board's Sacramento and Fresno offices lack adequate field staffing, both for field work and for permitting. Although staff presence in the field is consistent and routine, current staff can only inspect a small fraction of the entire universe of AFOs/Concentrated Animal Feeding Operations (CAFOs) per year. Lack of inspectors is a key factor contributing to the inability of the Sacramento Board to follow up on the permit status of non-filers and to verify the on-site existence and implementation of SWPPPs. Both these offices need to increase the number of inspectors.

D. Other Suggestions

The high staff turn over rate in the Board's Fresno office should be addressed. The down time which results from an absent position and the time required to train new staff on an annual basis weakens the program.

CONCLUSIONS--PRETREATMENT

A. Strengths

The Sacramento Board incorporates pretreatment requirements into the permits for most POTWs including those without surface water discharges, in keeping with the regulatory objectives of preventing environmental problems related to industrial contributions to POTWs, and improving the opportunities to recycle wastewaters and sludges. The Board's Redding office designates one person to do much of the work related to pretreatment, providing the in-depth expertise necessary for the program.

B. Required Changes--State-wide Issues

The SWRCB, the Sacramento Board, or some combination of Regional Boards must develop the necessary program expertise in industrial wastewater treatment, the Federal categorical standards and pretreatment regulations, and industrial user permitting and oversight, in order to effectively implement the pretreatment program. The Sacramento Board should directly enforce against the industrial users which cause chronic environmental problems at any POTW.

C. Required Changes Specific to the Sacramento Board

The Sacramento Board must implement a pretreatment program that prevents the environmental problems caused by industrial contributions to POTWs. Nearly half of the Central Valley POTWs with significant industrial users experienced instances of pass-through, interference, or sludge contamination during the time period covered by this review. The Sacramento Board must identify the significant industrial users discharging to POTWs without approved pretreatment programs and directly regulate their categorical industrial users to meet the federal categorical standards. At the time of this review, at least 22 unregulated categorical industrial users discharged to POTWs without approved programs. The Sacramento Board must develop and approve pretreatment programs for the POTWs that now qualify for them; there were at least six qualifying POTWs awaiting approval at the time of this review. The Sacramento Board must also review and approve all modifications to the approved pretreatment programs; at least eight POTWs were awaiting approval of their local limit proposals at the time of this review.

D. Other Suggestions

The Sacramento Board's NPDES permit language for pretreatment is not consistent. For approved programs, the permits should incorporate the expanded language of the Roseville permit. Other POTW permits should incorporate language comparable to the Red Bluff permit, and add a requirement to disclose new industrial sources comparable to the Gustine permit. The Board's workplan for pretreatment oversight should include comprehensive audits in the year prior to NPDES permit reissuance, as well as yearly on-site reviews of the approved programs experiencing any environmental or regulatory problems.

CONCLUSIONS--ENFORCEMENT

A. Strengths

The Sacramento Board is commended for taking prompt enforcement actions that address every identified violation by major and minor NPDES permitted dischargers. The Board has taken several noteworthy enforcement cases involving penalties which illustrate its resolve and success in overcoming legal, political, and technical difficulties.

B. Required Changes - State-wide Issues

The Sacramento Board's penalty actions (Administrative Civil Liability Complaints, or ACLCs) need to comply with State penalty policies. Economic benefit amounts must not be reduced or rescinded as an incentive toward achieving compliance or as an off-set for supplemental environmental projects. Compliance with State penalty policies, including recovery of economic benefit through penalties, is a State-wide concern. EPA notes that passage of recent California legislation (the Migden bill) directly responds to this concern.

C. Other Suggestions

The Sacramento Board should develop and implement a clear rationale (enforcement response plan) for selecting appropriate enforcement responses, and should establish and apply clear criteria for penalty actions in response to violations and conditions, so that penalty actions will not be reduced or rescinded as an incentive towards achieving compliance. The Board should consider referring contentious and difficult enforcement cases for judicial action.

INTRODUCTION

During five visits from September to December 1998, the U.S. Environmental Protection Agency, Region 9 (EPA), conducted a review of the Central Valley Regional Water Quality Control Board's (RWQCB 5) approved National Pollution Discharge Elimination System (NPDES) program. The reviews were conducted at RWQCB 5's Sacramento, Redding, and Fresno offices on October 14 - 16, November 2 - 4, and November 18 - 20, 1998. An entrance conference was held at RWQCB 5's Sacramento office in September 1998, and the exit conference held on December 3, 1998. The review was conducted by EPA to assess RWQCB 5's implementation of the NPDES program, in accordance with Federal laws, regulations, and policies, as agreed upon by EPA and California, and described in the following documents:

1. NPDES Memorandum of Agreement Between the U. S. Environmental Protection Agency and the California State Water Resources Control Board (September 1989), and
2. Final FY 1995/1996, FY 1996/1997, and FY 1997/1998 Section 106 Workplans.

The EPA review focused on six main NPDES activities: permitting, compliance, storm water, animal feeding operations, pretreatment, and enforcement. EPA conducted its review by evaluating a representative sample of RWQCB 5's NPDES program files, documents, quarterly and other reports, and by conducting interviews of RWQCB 5's NPDES program managers and staff. The EPA review is documented on checklists which correlate with the requirements of the above-listed documents. This report presents the results of EPA's review of RWQCB 5's NPDES program.

EPA's review participants included the following Region 9 Water Division staff:

Mike Schulz, Associate Director
Jenée Gavette, Environmental Protection Specialist
Doug Liden, Environmental Engineer, Permitting
Eugene Bromley, Environmental Engineer, Permitting
Kathy Goforth, Life Scientist, Permitting
Robert Wills, Environmental Engineer, Compliance
Andrew Sallach, Environmental Engineer, Storm Water Compliance
Glenn Sakamoto, Animal Feeding Operations
Greg Arthur, Environmental Engineer, Enforcement and Pretreatment
Dyi-You Shieh, Environmental Engineer, Compliance and Enforcement

Laurie Kermish, Attorney, Office of Regional Counsel

We wish to extend our thanks to the staff and managers at RWQCB 5 for their hospitality and cooperation in the conduct of this NPDES review.

BACKGROUND AND REVIEW OBJECTIVES

The State of California and EPA have entered into the Memorandum of Agreement (MOA) and annual EPA grant workplans to ensure an effective and well-coordinated program of water quality control in California. These agreements delineate the respective responsibilities of California and of EPA for the operation of a cooperative State-Federal NPDES program, including permitting, compliance, and enforcement in accordance with the Federal Water Pollution Control Act (P.L. 92-500) as amended by the Clean Water Act (CWA) of 1987 (P.L. 100-4).

These agreements recognize that the issuance of NPDES permits, conduct of inspections, and issuance of enforcement actions necessary for the protection and enhancement of waters in California are the primary responsibility of the RWQCBs, and require that RWQCBs issue permits which are consistent and compatible with the CWA and its regulations and policies. The agreements recognize EPA's substantial interest and oversight role in the issuance of NPDES permits and related enforcement matters, and describe EPA's primary role in providing financial and technical assistance, including policy guidance, to RWQCBs. The agreements also require EPA's and the RWQCBs' full cooperation to promote and conduct an enforcement program capable of providing maximum effectiveness in achieving Federal and State objectives for the regulation of water quality.

U.S. EPA and the State of California have been cooperatively engaged in the operation of the approved California NPDES program since 1973. During this time, formal and informal reviews and various EPA oversight activities have been conducted to determine the effectiveness of the State's NPDES program. It has been at least five years since EPA last conducted an NPDES review of a RWQCB. This review was conducted to assure that EPA-approved programs are effective and compliant with all applicable laws, regulations, and policies.

This report consists of several components. First is an overview of the RWQCB 5 NPDES program, which briefly describes RWQCB 5's organizational structure relevant to NPDES administration. The results of EPA's review are then presented for each of six areas of the NPDES program: permits, compliance, storm water, animal feeding operations, pretreatment, and enforcement. Each of these sections discusses EPA's evaluation of RWQCB 5's NPDES activities, including which actions were reviewed by EPA, and provides EPA's conclusions regarding both State-wide issues and RWQCB 5's administration of the NPDES program.

NPDES PROGRAM OVERVIEW FOR RWQCB 5

RWQCB 5's jurisdiction includes nearly 60,000 square miles of land, about 40 percent of the State. This area includes 11,350 miles of streams and 579,110 acres of lakes. The Sacramento and San Joaquin Rivers, along with their tributaries, drain the major part of this large area into the Delta prior to emptying into San Francisco Bay. In addition, 414 significant industries, comprising nine percent of all industries in California, discharge into 39 Publicly Owned Treatment Works (POTWs) in RWQCB 5, accounting for much of the toxics control accomplished in California under the Clean Water Act.

In RWQCB 5, three offices are responsible for the implementation and operation of the NPDES program, as follows and as illustrated in the attached Table 1:

- Sacramento office: three of 12 program units--(1) NPDES Sacramento Watershed, (2) NPDES San Joaquin River Watershed, and (3) Land Discharge/Dairies San Joaquin River Watershed;
- Redding office: two of three program units--(1) Regulatory, (2) Mining; Spills, Leaks, Investigations, and Cleanups (SLIC); Underground/Above Ground (UG/AG) Tanks; and Timber Harvest;
- Fresno office: two of six program units--(1) Agriculture and Regulatory (Kern and Tulare Counties) and (2) Regulatory (Fresno, Mariposa, Madera, Merced, and Kings Counties).

RWQCB 5 is responsible for the permitting, compliance, and enforcement activities for the NPDES-permitted facilities listed in the attached Table 2. The attached Tables 3a - 3e lists the status of RWQCB 5's pretreatment program. The attached Table 4 lists the numbers of Notices of Violation (NOVs), Time Schedule Orders (TSOs), Cease and Desist Orders (CDOs), Clean-up and Abatement Orders (CAOs), and Administrative Civil Liability Complaints (ACLCs), issued by RWQCB 5 for Fiscal Years 1996 to 1998.

STATE-WIDE NPDES PROGRAM ISSUES

EPA's NPDES program reviews conducted to date at RWQCBs 4, 5, and 9 have revealed issues which are applicable throughout the State of California. These issues, as agreed upon by the State Water Resources Control Board (SWRCB), all nine RWQCBs, and EPA, are listed below, and are also discussed in this report of the review conducted at RWQCB 5. EPA is working with the SWRCB and all the RWQCBs to identify and implement solutions to these State-wide NPDES program issues, as discussed in more detail in Appendix A of this report.

- The current lack of State-wide water quality standards for toxic pollutants and plan of implementation for establishing water quality based effluent limits for toxics and whole effluent toxicity results in NPDES permit issuance problems at the RWQCBs.
- Adoption of NPDES permits containing compliance schedules for water quality based effluent limitations is not allowable, unless an authorizing provision is contained in the applicable water quality control plan. This issue is not applicable to RWQCBs 2 and 5, where Basin Plans do include such provisions.
- Appropriate receiving water limitations language, for which acceptable model language has been developed by EPA, the SWRCB, and the California Storm Water Quality Task Force, needs to be included in all forthcoming municipal storm water permits.
- Permit fact sheets/statement of basis need to clearly establish that permits are consistent with applicable statutes, regulations, and policy (e.g., reasonable potential, antibacksliding, establishing mixing zones, determining dilution credits, etc.)

- Copies of inspection reports of major permittees, as well as copies of responses from permittees about violation follow-up, must be sent by all RWQCBs to EPA, in accordance with the Memorandum of Agreement (MOA) between EPA and State of California.
- Compliance review of Discharge Monitoring Reports (DMRs) is often not timely, especially for minors.
- The Quarterly Non-Compliance Reports (QNCRs) submitted by the RWQCBs need improvement in quality and content.
- Field presence/compliance assessment at NPDES major and minor facilities is not adequate. Issues include use of appropriate sampling methods, adequacy of field inspection notes, and depth of on-site review.
- A greater inspection presence in the storm water program for both industrial and construction sites needs to be established by all RWQCBs; this program element is significantly under funded State-wide.
- Pretreatment program expertise, in general, needs to be increased; industrial user regulation by the State is needed; industrial user compliance problems, especially when the pretreatment authority is for whatever reason unable to exert authority over the industrial user, must be addressed by the State.
- All RWQCB penalty actions need to comply State policies which call for recovery of economic benefit resulting from noncompliance.

NPDES PERMITTING

EPA Evaluation Procedures

EPA's NPDES permit review consisted of four parts:

1. An in-depth review of selected NPDES permits to verify that they are written in accordance with applicable laws, regulations, and policies, as follows:
   - Sacramento office: *UC Davis POTW, Auburn POTW, Hunt-Wesson Oakdale, and Gaylord Container*;
   - Redding office: *City of Redding/Clear Creek WWTP, City of Chico WWTP, Simpson Paper Company (proposed Order), Collins Pine Company*;
   - Fresno office: *City of Merced WWTP, Kaweah River Rock Company, Inc. (proposed Order), ARCO Western Energy, Bakersfield/Kern County municipal separate storm sewer system (MS4).*
2. A spot check of additional permits.
3. A review of the Memorandum of Agreement (MOA) to ensure that requirements are followed.
4. An on-site review of RWQCB 5's permit files to ensure that administrative records are complete and contain required information.
5. A review of overall program effectiveness in terms of permit backlog, staffing, training, etc.

The permits selected for in-depth review were chosen because the facilities are significant dischargers representing different discharge categories. Also, these permits reflect water quality

based permitting practices subsequent to the 1994 invalidation of California's Inland Surface Water Quality Control Plan, and Enclosed Bays and Estuaries Water Quality Control Plan.

NPDES Program Staffing

In RWQCB 5's Sacramento office, there are approximately 24 staff assigned to writing NPDES permits. 11 staff are in the NPDES Unit, and 13 staff are involved in NPDES permit issues on a part-time basis.

In RWQCB 5's Redding office, two of the four program units are responsible for the NPDES permitting program. A Non-Point Source Unit oversees Iron Mountain Mine, as well as the non-point source program. Nearly all the staff are involved in writing NPDES permits, with the level of involvement varying substantially from person to person.

In RWQCB 5's Fresno office, two program units are responsible for the NPDES permitting program. Given the large number of non-discharging facilities under the jurisdiction of the Fresno office, a considerable amount of staff time is devoted to non-discharging facilities (approximately one-third of the time is spent on NPDES permitted facilities, and two-thirds of the time on non-discharging facilities covered by State Waste Discharge Requirements). The other major section of the Fresno office is the Land Discharge Section, which covers site cleanup, landfills, and the above ground petroleum storage tank program.

The SWRCB has developed NPDES program cost factors to serve as the basis for determining NPDES program needs in California; these cost factors should be used in determining RWQCB 5's resource needs for permit reissuance.

Due to both the wide range of staff responsibilities and staff turn-over, not all staff receive the appropriate level of training necessary to write and issue NPDES permits, resulting in inconsistent NPDES permit quality. EPA suggests that all staff responsible for developing NPDES permits attend the NPDES permit writers' training class, periodically offered by EPA, and work closely with someone from RWQCB 5's NPDES Units who is an experienced NPDES permit writer. These actions will result in higher-quality NPDES permits, and help to ensure that permits are more legally defensible.

Filing and Administrative Record

RWQCB 5's Sacramento office's permit files were difficult to review because applications were typically not found in the same files containing the permits, and supporting information to explain the source and/or derivation of permit limits was frequently missing.

The Redding and Fresno office's permit files were readily available for review, and all required documents were found, with the exception of the Fresno MS4 Part 2 permit application at the Fresno office. It is important that the Fresno MS4 Part 2 application be on file and available, since the MS4 permit references the storm water management program contained in the Part 2 application.

For all of RWQCB 5's offices, EPA's in-house review indicated that EPA occasionally did not receive copies of draft permits 30 days prior to adoption date (90 days for draft general permits), and at times did not receive a copy of final permits as required by the MOA.

NPDES Permits–EPA Conclusions

Permit Issuance

RWQCB 5's Sacramento office original Watershed Management Initiative (WMI) permit issuance schedule is outdated. Due to the amount of staff time consumed for response to appeals of permits that have been filed since the WMI was written, staff are unable to meet the original schedule. Reissuance of permits that RWQCB 5 expects to be uncomplicated and not in need of changes is being deferred, while attention is given to permits deemed in need of changes. In the Redding and Fresno offices, the backlog of expired permits is modest relative to the total number of individual permits, and based on discussions with permitting staff it appears that the expired permits are all on track for prompt reissuance.

RWQCB 5's backlog of expired permits as of October 16, 1998 is as follows:

- Sacramento office: 14 of 31 majors expired (47 percent)
- Redding office: 1 of 13 majors expired (8 percent)
  9 of 70 minors expired (13 percent)
- Fresno office: 1 of 9 majors expired (11 percent)
  6 of 54 minors expired (11 percent)

Current NPDES permits need to be issued for these permits which have expired.

Application of Secondary Treatment Standards

In response to CWA requirements, EPA has established performance standards for secondary treatment at 40 CFR 133.102 which describe national minimum levels of effluent quality required for five-day Biochemical Oxygen Demand (BOD_5) and Total Suspended Solids (TSS) (both effluent concentration and 85 percent removal from influent) as well as pH. All RWQCB 5 office permits reviewed in depth included each of these requirements. Some permits contained limits more stringent (for BOD and TSS) than those required in effluent guidelines; however, EPA could not determine what criteria (i.e., water quality concerns, etc.) these limits were based on because it was not documented in the fact sheet. Of the major POTW permits that were spot checked, one Redding office permit (City of Quincy) lacked the 85 percent removal requirement. It is essential that all POTW permits comply with 40 CFR 133.102, including the 85 percent removal requirement.

In all cases, RWQCB 5 fact sheets for the permits must explain the origin of the specific effluent limits which are derived from secondary treatment requirements.

Application of Effluent Limitations Guidelines

National effluent limitations guidelines set forth effluent limits for industrial categories (i.e., refineries, foundries, etc.) The guidelines, as developed by EPA, represent certain levels of wastewater treatment for specific categories of industrial facilities.

Both of the industrial permits reviewed at the Sacramento office either did not calculate the appropriate technology-based effluent limits, or used the wrong guidelines to determine these limits. It appears that the permit for Hunt-Wesson Oakdale, may have limits more stringent than effluent guidelines, but the basis for the permit limits is not clearly stated in the fact sheet, as required. For Gaylord Container Corporation, 40 CFR 430.50 Subpart E should have been used as required, instead of 430.12. In this case, application of appropriate effluent guidelines will result in more stringent effluent limits.

In the Redding office, the industrial permit for Collins Pine Company includes the appropriate effluent limitation for this industry--no discharge of process wastewater. Based on discussions with the permit writer, the proposed permit for Simpson Paper Company appropriately includes water quality-based effluent limitations which are more stringent than effluent limitations based on national effluent limitations guidelines. However, documentation that this is the case is not found in the fact sheet, nor was such documentation readily available. Instead, the Simpson Paper permit fact sheet indicates that effluent limitations based on effluent limitations guidelines were included in the draft permit. The fact sheet must include a more detailed discussion of the origin of the water quality-based effluent limitations, including a comparison of effluent limitations derived from the national guidelines and the water quality-based effluent limitations. Fact sheets/statements of basis are required to contain the information discussed on page twelve and thirteen of this report.

Both industrial permits which were reviewed at the Fresno office included the applicable effluent limitations guidelines for the industry. The permit for ARCO Western Energy included the effluent limitation guideline of 35 mg/l for oil and grease in Subpart E (Agricultural and Wildlife Water Use Subcategory) of 40 CFR Part 435. Likewise, the permit for Kaweah River Rock Company includes the applicable pH limit (range of 6-9 standard units) from 40 CFR 436.32. The fact sheets also explain the origin of these limits as required by NPDES regulations at 40 CFR 124.8 and 124.56. However, the Kaweah River Rock Company permit fact sheet must refer to the pH limit as based on best conventional pollutant control technology (BCT) rather than best practicable control currently available (BPT). The Clean Water Act requires that effluent limitations be based on BCT for conventional pollutants such as pH as of March 31, 1989. The fact sheet must refer to the pH limit as a BCT limit which apparently was determined to be equal to the BPT limit from 40 CFR 436.32. EPA has not promulgated BCT effluent limitations guidelines for this industry.

Implementation of Water Quality Standards

NPDES regulations at 40 CFR 122.44(d)(1)(I) require that permits regulate "all pollutants or pollutant parameters . . . which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard . . ." The current lack of State-wide water quality standards for toxic

pollutants and plan of implementation for establishing water quality-based effluent limits for toxics and whole effluent toxicity results in NPDES problems at all the RWQCBs, as discussed in Appendix A, State-wide issues.

Sacramento Office

In accordance with 40 CFR 122.44(d)(1)(iii), water quality based effluent limits (WQBELS) must be established to ensure compliance with state water quality objectives. While the Sacramento office has incorporated water quality objectives into NPDES permits as receiving water limits, receiving water limits are difficult to enforce because (1) an adequate receiving water monitoring program is required, and (2) RWQCB 5 must prove that the discharger is the cause of the limits being exceeded before permit noncompliance can be established and enforcement action can be taken. RWQCB 5 must establish water quality based limits that apply to the effluent itself to ensure that water quality objectives are met where reasonable potential exists to cause or contribute to an exceedance of narrative or numeric water quality standards [40 CFR 122.44(d)]. Therefore, in place of or in addition to receiving water limits, the permit should contain water quality based numeric *effluent* limits to ensure that the receiving water objectives (i.e., receiving water limits) are met.

At the Sacramento office, one of the permits (University of California-Davis) contained a thorough reasonable potential analysis and corresponding WQBELs based on the basin plan and the National Toxics Rule (NTR). Two other permits cited a reasonable potential analysis as the basis for not including WQBELs, but did not describe how the reasonable potential analysis was performed. Also, the permits reviewed contained effluent limitations (i.e., turbidity) without the required explanation of the basis of such limits in the fact sheet.

The regulations at 40 CFR 122.44(d) require that water quality based effluent limitations be established for discharged pollutants which cause, have the reasonable potential to cause, or contribute to an exceedance of narrative or numeric water quality standards. In establishing reasonable potential, a consistent approach is needed to ensure that numeric water quality based effluent limitations are appropriate and defensible. Fact sheets/statements of basis are required to contain the information discussed on page twelve and thirteen of this report.

Once pollutants have been chosen through the reasonable potential analysis suggested above, permit limits need to be written so that compliance determination is straightforward and unambiguous. RWQCB 5 needs to set clear, numeric limits for those pollutants, and list the limits and the averaging periods in the permits. The fact sheet must document how the effluent limitations were calculated. If a mixing zone is allowed, the technical basis for the dilution factor (mixing-zone size and amount of dilution the effluent receives in the mixing zone) must be documented in the permit fact sheet, as well as the type of criteria (acute, chronic, human health, etc.) to which the mixing zone applies. For more information on mixing zones, please refer to EPA's *Technical Support Document* (EPA 505/2-90-001) which provides guidance on establishing mixing zones and determining dilution credits.

EPA also suggests that a standard approach to establishing reasonable potential be used, as well as a standard approach to setting WQBELs and monitoring requirements (including whole effluent toxicity) using Basin Plan objectives and other protective criteria to ensure that NPDES permits are appropriate, defensible, and equitable for all dischargers. Without a consistent approach, permits are difficult to defend when appealed.

Redding Office

While the NPDES permits issued by the Redding office and included in this review contain many WQBELs, documentation of the origin of these limitations is inadequate. For example, the Simpson Paper Company permit includes a series of effluent limitations for BOD and suspended solids which vary depending on the flow of the receiving water. While this suggests that the limits are water quality-based effluent limitations, in fact the limits are based on BPT/BCT at high flows and are WQBELs at low flows. Similar limitations are found in the permit for Collins Pine Company. The origin of these effluent limitations is not explained in the fact sheets. As noted above, NPDES regulations at 40 CFR 124.8 and 124.56 require fact sheets to contain specific information.

In discussing the Simpson Paper Company permit with the permit writer, EPA learned that the effluent limitations in the permit originated from negotiations with California Fish and Game. This should be explained in the fact sheet. The permits for the Cities of Redding and Chico also have numeric effluent limitations for settleable solids, chlorine residual, and total coliform organisms, which also require explanation in the fact sheets applicable to those permits.

The Redding office staff use their best professional judgment in determining which parameters should be limited or monitored in permits in accordance with reasonable potential. It appears that their selection of parameters is generally reasonable based on the available data. However, the fact sheets must discuss their procedures for assessing reasonable potential, including a discussion of which parameters were selected for review (and why), and a justification for including or omitting an effluent limitation. In addition, to support their determinations, EPA recommends that whenever possible the Redding Branch Office staff use the statistical approach outlined in EPA's *Technical Support Document*.

In cases where a discharging facility cannot meet water quality objectives at end-of-pipe, RWQCB 5 may allow for a mixing zone which provides for dilution of the effluent by the receiving water. In the Simpson Paper Company permit, a mixing zone was apparently granted. However, the technical basis for the dilution factor (mixing zone size and amount of dilution the effluent receives in the mixing zone) was not explained in the fact sheet as required. Where mixing zones are allowed, the dilution factor/ratio (the amount of dilution the effluent receives at the edge of the mixing zone) must be applied to the water quality objective to calculate the end-of-pipe effluent limitations, rather than simply relying on receiving water limits. EPA's *Technical Support Document* provides guidance on these issues.

EPA found that most permits at the Redding office contain a large section of receiving water limits. As noted above, receiving water limits in NPDES permits are difficult to enforce

and are not a substitute for effluent limitations. Therefore, as noted above, in place of or in addition to receiving water limits, the permit must contain water quality-based numeric *effluent* limits to ensure that the receiving water objectives (i.e., receiving water limits) are met.

Fresno Office

While the NPDES permits issued by the Fresno office and included in this review contain WQBELs, the documentation of the origin of these limitations in the fact sheets is inadequate. Condition B.1 of the City of Merced permit includes numeric effluent limitations for oil and grease, settleable solids, chlorine residual, and total coliform organisms. The only reference to the origin of these numeric limits in the fact sheet is a reference to the San Joaquin Basin Plan. However, the numeric values for these limits are not actually in the Basin Plan, and the origin of the limits must be explained in the fact sheet. For example, in discussions with Fresno office staff, EPA found that the limit for total coliform organisms actually stems from guidance from the California Department of Health Services; this must be explained in the fact sheet. The fact sheet for the permit for Kaweah River Rock Company mentions that certain numeric effluent limits for settleable solids, suspended solids, and oil and grease are to prevent nuisance conditions. The origin of the particular numbers selected must be explained. The fact sheet for the permit for ARCO Western Energy does include a suitable explanation for the origin of its numeric effluent limitations, i.e., the report entitled "Water Quality for Agriculture."

The staff of the Fresno office use their best professional judgment in determining which parameters should be limited or monitored in the permit in accordance with reasonable potential. However, the fact sheets must discuss the procedures for assessing reasonable potential, including a discussion of which parameters were selected for review (and why), and a justification for including or omitting an effluent limitation. In addition, to better support these determinations, EPA suggests that whenever possible the RWQCB 5 utilize the statistical approach outlined in EPA's *Technical Support Document*.

As discussed above, in cases where a discharging facility cannot meet water quality objectives at end-of-pipe, RWQCB 5 may allow for a mixing zone which provides for dilution of the effluent by the receiving water. In the City of Merced permit, a mixing zone was granted. However, the technical basis for the dilution factor (mixing zone size and amount of dilution the effluent receives in the mixing zone) was not explained in the fact sheet as required. EPA's *Technical Support Document* provides guidance on establishing mixing zones and determining dilution credits. Where mixing zones are allowed, the dilution factor/ratio (the amount of dilution the effluent receives at the edge of the mixing zone) must be applied to the water quality objective to calculate the end-of-pipe effluent limitations, rather than simply relying on receiving water limits.

Implementation of Whole Effluent Toxicity

Sacramento Office

The approaches used by RWQCB 5's Sacramento office to limit or monitor for Whole Effluent Toxicity (WET) lack consistency. Sometimes, both acute and chronic WET monitoring was required. Other times, only acute requirements were established. The NPDES permits do not require accelerated effluent monitoring for acute or chronic toxicity following the measurement of effluent toxicity at critical levels (as denoted by the exceedance of an effluent limit or benchmark). Where accelerated effluent monitoring is not required following the measurement of effluent toxicity at critical levels, EPA is concerned that critical levels of effluent toxicity may be allowed to continue for an unacceptably long period of time before any action to reduce effluent toxicity is required by the permit. This is of special concern where effluent monitoring requirements for toxicity are infrequent in relation to the frequency of exceedances needed to trigger any action by the permittee to reduce or identify the cause(s) of toxicity. Requirements for accelerated effluent monitoring following the measurement of effluent toxicity at critical levels may be found in *Regions 9 and 10 Guidance for Implementing Whole Effluent Toxicity Testing Programs* (Denton and Narvaez, 1996).

None of the Sacramento office permits reviewed included requirements for a Toxicity Identification Evaluation/Toxicity Reduction Evaluation (TIE/TRE) to be performed if certain permit limits or triggers are exceeded. The TIE/TRE process is a vital element of a WET requirement as it requires the permittee to find the source of toxicity. TIE/TRE requirements can also be found in the above-referenced *Guidance*.

A consistent approach to WET requirements is vital. Though the lack of consistency in limiting or monitoring WET and the exclusion of accelerated effluent monitoring do not violate any federal or state regulations, the WET requirements implemented by RWQCB 5 are less effective for gauging impacts of the effluent on receiving waters. RWQCB 5 should follow the recommendations provided in the *Guidance* referenced above.

Redding Office

The Redding office's procedures for implementation of requirements for WET are similar to those for specific chemicals. Again, however, the origins of the effluent limitations and monitoring requirements are not fully explained in the fact sheets. For example, the Simpson Paper permit fact sheet indicates that chronic toxicity would not be expected outside the mixing zone, but no supporting information is provided (i.e., a summary of the previous chronic toxicity monitoring results, and the Redding office's procedures for assessing the reasonable potential of the discharges to exceed applicable chronic toxicity requirements). The City of Redding permit also requires that chronic toxicity monitoring be conducted by the permittee, but more discussion of this requirement must be provided in the fact sheet. For example, the fact sheet should discuss any currently available information concerning chronic toxicity in the effluent. If adequate information is currently unavailable to determine reasonable potential to exceed applicable requirements, then a monitoring requirement is appropriate. However, the Redding office's analysis of the reasonable potential issue must be discussed in the fact sheet.

EPA also believes that the chronic toxicity limitation in the City of Chico permit is inadequate. This permit prohibits consistent chronic toxicity outside the mixing zone, with

consistent chronic toxicity defined as three consecutive tests that exceed 1 TU_c. This limit would allow an excessive number of exceedances and would not be protective of the environment. As explained in EPA's TSD, water quality standards should not be exceeded more than once every three years. Alternate WET effluent limitations must be used in permits and can be found in EPA's *Regions 9 and 10 Guidance for Implementing Whole Effluent Toxicity Testing Programs.*

Both the Simpson Paper Company and City of Redding permit (and many other of the Redding office's permits) also include an acute toxicity requirement for rainbow trout (minimum of 70 percent survival for any one bioassay and median of 90 percent survival for any three bioassays). The origin of this limit must be explained and justified in the permit fact sheet.

Fresno Office

The Fresno office's procedures for implementation of permit requirements for WET are similar to those for specific chemicals. Again, however, the origins of the effluent limitations are not fully explained in the fact sheet, as required. For example, the City of Merced permit limits for acute toxicity (70 percent survival for any one bioassay and a median of 90 percent survival for any three or more bioassays) and for chronic toxicity are not explained in the fact sheet. The Fresno office's procedures for assessing reasonable potential for WET must also be discussed in the fact sheet.

EPA also believes that the City of Merced permit chronic toxicity limitation is inadequate. The permit prohibits consistent chronic toxicity outside the mixing zone, with consistent chronic toxicity defined as three consecutive tests that exceed 1 TU_c. This limit allows an excessive number of exceedances and is not protective of the environment. As explained in the TSD, water quality standards should not be exceeded more than once every three years. Alternate WET effluent limitations must be used in permits and can be found in EPA's *Regions 9 and 10 Guidance for Implementing Whole Effluent Toxicity Testing Programs.*

EPA recognizes that the whole effluent toxicity permitting problems at RWQCB 5 discussed above are partially attributable to the lack of State-wide water quality standards for toxic pollutants, as discussed in Appendix A, State-wide issues.

Fact Sheet Documentation Requirements

The fact sheet (or statement of basis) and supporting documentation serve as the primary basis for defending a NPDES permit in an administrative appeal and evidentiary hearing. Regulations at 40 CFR 124.8 require that fact sheets contain the following information:

- the type and quantity of pollutants treated and discharged;
- a summary of the basis for the tentative permit conditions, including references to applicable statutory or regulatory provisions and appropriate supporting references to the administrative record; and
- any calculations or other necessary explanations of the derivation of specific effluent limits and conditions.

The fact sheets prepared by RWQCB 5 provide summary explanations for permit requirements, and special attention is given to the source document for water quality based effluent limitations. However, RWQCB 5 must provide additional explanation detailing the basis for requiring water quality based effluent limitations and receiving water limits in the fact sheet, including reasonable potential procedures and the method used to implement water quality objectives/criteria as effluent limits. This is a State-wide issue, as discussed in Appendix A.

Responding to Public Comments

NPDES regulations at 40 CFR 124.17 require a response to significant comments which are received on a draft permit. In reviewing the file for the Kaweah River Rock Company permit issued in 1993, a response to the comments submitted by Del Strange of St. Johns Farmer's League could not be found. The Fresno office must provide a response to comments to comply with the regulations and to ensure the integrity of the program.

Storm Water Permitting

Sacramento Office

There are four MS4s which have been permitted by the RWQCB 5's Sacramento office. These MS4s are Sacramento County, the Cities of Modesto and Stockton, and the eastern portion of Contra Costa County which is under the jurisdiction of RWQCB 5. The vast majority of industrial and construction storm water discharges are covered by the State's general storm water permits, which were issued by the SWRCB.

EPA reviewed the Sacramento County MS4 permit to evaluate the Sacramento office's MS4 permitting program. Like most California MS4 permits, the Sacramento County permit requires the implementation of the storm water management program (SWMP) proposed by the permittee. Where necessary, the permit includes certain additional conditions to ensure that the SWMP controls pollutants to the maximum extent practicable (MEP).

EPA's review of the Sacramento County permit and SWMP showed that, with the relatively minor exceptions discussed below, the permit should ensure compliance with MEP. The permit and the SWMP omit any requirements for consideration of failing septic systems which may or may not be of significance in the permitted area. EPA's Guidance Manual for Part 2 MS4 permit applications recommends that failing septic systems at least be considered as a potential source of pollutants. Therefore, either the permit or the SWMP should include a requirement for consideration of septic systems as a threat to water quality, and implementation of any appropriate BMPs. Also, though the SWMP includes a description of inspection and enforcement procedures for construction sites, information concerning the frequency of the inspections was not provided. EPA suggests that the next permit require a description of the frequency of inspections to ensure adequate enforcement of local requirements for construction sites.

The annual report requirements of the permit paraphrase the requirements of 40 CFR 122.42(c)(2), and will generally ensure compliance with the intent of the regulations. However, to ensure compliance with 40 CFR 122.42(c)(6) (which addresses inspections, enforcement actions, and public education), we believe that the annual report requirements of the permit must include this specific item. The existing permit requirement to report progress in implementing the SWMP may not adequately cover this.

The Sacramento County MS4 placed first in EPA's national storm water awards program for MS4s in 1997. The Sacramento office, through its interactions with the County, likely played a significant role in the development of this award-winning program, and is commended for these efforts.

Several MS4s within the jurisdiction of the Sacramento office will be permitted in 2002 under Phase II of the storm water program (such as the Cities of West Sacramento, Rocklin, and Roseville). EPA suggests that the Sacramento office staff keep these MS4s apprised of new developments in the Phase II program in order to prepare them for Phase II when it arrives, and to ensure timely implementation of new requirements. Implementation of Phase II requirements is a State-wide issue that has not yet been discussed among EPA, the SWRCB, and the RWQCBs.

The Sacramento County MS4 permit includes receiving water limitations language (RWLs) which EPA originally accepted when the permit was issued in 1996, but now believes is inconsistent with the Clean Water Act. The permit requires compliance with RWLs, but then excuses any noncompliance if the permittees follow up with additional pollution controls. The Clean Water Act does not allow for such noncompliance to be excused by NPDES permits. Working with the California Storm Water Quality Task Force and the SWRCB, EPA has developed alternate RWLs language for California MS4s which must be used for the reissuance of the Sacramento County MS4 permit. Although this is not necessarily the only acceptable RWLs language, the existing language in the permit is unacceptable for the permit reissuance. This is a State-wide issue, as discussed in Appendix A.

Industrial storm water discharges are occasionally covered in individual permits issued for process waste water discharges. However, the effluent limitations and monitoring requirements are essentially the same as the SWRCB's general storm water permit. EPA suggests that, when covering industrial storm water discharges in individual permits, the Sacramento office consider including some of the industry-specific best management practices requirements of EPA's multi-sector general permit (60 FR 50804). The individual permit would provide an ideal opportunity to include some of the more environmentally protective provisions of the multi-sector permit.

Redding Office

The storm water permitting activity of RWQCB 5's Redding office is limited by two factors. First, there are no large or medium MS4s within the jurisdiction of the office. Second, the vast majority of the industrial and construction storm water discharges are covered by the State's general storm water permits, issued by the SWRCB. However, the Redding office does

engage in storm water permitting in the following circumstances: (1) issuance of individual storm water permits for cases where the State's general permits are inadequate, and (2) coverage of industrial storm water discharges in individual permits for regulation of process wastewater discharges.

The individual NPDES permits which were reviewed for Simpson Paper Company, the City of Redding, and Collins Pine Company all covered the storm water discharges associated with industrial activity from these facilities. However, the effluent limitations and monitoring requirements were essentially the same as the SWRCB's general storm water permit. EPA recommends that, when covering industrial storm water discharges in individual NPDES permits, the Redding office consider including some of the industry-specific best management practices requirements of EPA's multi-sector general permit (60 FR 50804). The individual permit would provide an ideal opportunity to include some of the more environmentally protective provisions of the multi-sector permit. Also, in one permit (Simpson Paper Company), the requirements for the storm water pollution prevention plan (SWPPP) and storm water monitoring plan were inadvertently omitted from the permit, and need to be included.

Individual permits have also been issued for several construction projects which the Redding office determined would not be appropriately regulated by the State's general permit. The Redding office is commended for its initiative in issuing these permits, which are more protective than the SWRCB's general permit would have been.

Several MS4s within the jurisdiction of the Redding office will be permitted in 2002 under Phase II of the storm water program (such as the Cities of Redding and Chico). During the review, EPA staff discussed Phase II requirements with the Redding office staff and found they were generally aware of the requirements and have been engaged in suitable outreach to the regulated community to prepare them for the Phase II.

Fresno Office

There are two medium MS4s (City of Fresno/Fresno County and City of Bakersfield/ Kern County) which have been permitted by the Fresno office. However, the vast majority of the industrial and construction storm water discharges are covered by the State's general storm water permits which were issued by the SWRCB. EPA had intended to review the Fresno MS4 permit and background files, which is the larger of the two MS4s. However, the Fresno Part 2 permit application was not readily available, and so EPA reviewed the Bakersfield/Kern County permit. Like most California MS4 permits, the Bakersfield/Kern County permit requires the implementation of the SWMP proposed by the permittee. Where necessary, the permit includes certain additional conditions to ensure that the SWMP controls all pollutants to the maximum extent practicable (MEP).

EPA's review of the Bakersfield/Kern County permit and permit application showed that with a few relatively minor exceptions, the permit should ensure compliance with MEP and other applicable requirements of the Clean Water Act. The SWMP industrial facility inspection

program calls for inspections of facilities regulated by the local pretreatment program, with others being inspected as needed. Although the pretreatment program may likely cover most industrial facilities of significance for storm water, it is unclear whether all would be covered. Therefore, EPA recommends that the next MS4 permits issued require the permittees to develop a list of all facilities which discharge storm water associated with industrial activity (as defined at 40 CFR 122.26(b)(14)) within the MS4 permittees' jurisdiction. The list should also include non-industrial facilities, or categories of facilities, which the permittees believe may discharge significant quantities of pollutants. The overall list should be prioritized to identify the highest risk sources for storm water to guide the permittees in implementation of their storm water inspection program.

Although the MS4 SWMP includes a description of inspection and enforcement procedures for construction sites, information concerning the frequency of the inspections was not provided. EPA recommends that the next permit require a description of the frequency of inspections to ensure adequate enforcement of local requirements for construction sites.

The annual report requirements of the permit omitted the requirements of 40 CFR 122.42(c)(2) (which addresses proposes changes to the SWMP) and 40 CFR 122.42(c)(6) (which addresses annual budget information). For compliance with 40 CFR 122.42(c), these requirements must be included in the permit.

The Fresno office staff indicated that they do not review annual reports submitted by the MS4 permittees, due to time constraints and the workload associated with the implementation of the industrial general permits (such as reviewing annual reports from industries). This is also true of the Sacramento office over the past year. However, EPA recommends that the annual reports from the MS4s be reviewed, given the scope of the permits and the environmental benefits to be obtained from an effective SWPPP.

Several additional MS4s within the jurisdiction of the Fresno office will be permitted in 2002 under Phase II of the storm water program (such as the Cities of Merced and Tulare). EPA suggests that the Fresno office keep these MS4s apprised of new developments in the Phase II program in order to ensure timely implementation of the new Phase II requirements. This is a State-wide issue, as discussed above.

EPA CONCLUSIONS SUMMARY–NPDES PERMITTING

Strengths

1. In some permits, RWQCB 5 is using the Basin Plan narrative toxicity objectives in conjunction with protective numeric criteria (e.g., national toxics rule criteria, Gold Book criteria, etc.) to establish water quality based effluent limitations.
2. Some permits contained receiving water monitoring.
3. Some permits require that three species be monitored on a quarterly basis for chronic toxicity.
4. Some permits had detailed fact sheets justifying permit limits.

Required Changes - State-wide Issues

1. The current lack of State-wide water quality standards for toxic pollutants and plan of implementation for establishing water quality based effluent limits for toxics and whole effluent toxicity results in NPDES permit issuance problems at the RWQCBs. Promulgation of the California Toxics Rule (CTR) and the State's adoption of the Inland Surface Waters and Enclosed Bays and Estuaries Plan's Implementation Policy are expected to address this issue for most constituents. In the interim, for guidance on permits to be issued, RWQCBs should refer to EPA's *Technical Support Document* and to fact sheets and permits that will be provided as examples by the SWRCB.
2. Permit fact sheets/statements of basis prepared by all RWQCBs need to clearly establish that permits are consistent with applicable statutes, regulations, and policy (e.g., reasonable potential, antibacksliding, establishing mixing zones, determining dilution credits, etc.).
3. Appropriate receiving water limitations language, for which acceptable model language has been developed by EPA, the SWRCB, and the California Storm Water Quality Task Force, needs to be included by the RWQCBs in all forthcoming municipal storm water permits; EPA notes the June 17, 1999 adoption by the SWRCB of a policy requiring all RWQCBs to include this model language in permits.
4. Implementation of Phase II of the storm water programs is a State-wide issue. EPA suggests that the SWRCB and all RWQCBs keep all MS4 permittees apprised of new developments in the Phase II program in order to prepare them for Phase II when it arrives, and to ensure timely implementation of new requirements.

Required Changes - RWQCB 5

1. Current NPDES permits need to be issued for those permits which have expired.
2. NPDES permits must contain limits derived using appropriate effluent guidelines unless water quality based effluent limits (WQBELs) are more stringent.
3. In accordance with 40 CFR 122.44(d), permits must contain measurable water quality based effluent limits which are based on reasonable potential determinations. Receiving water limitations alone are insufficient when reasonable potential exists.
4. Metals must be limited in permits and reported as "total recoverable."

Other Suggestions

1. All RWQCB 5 staff who write NPDES permits should receive NPDES permit writers' training, and all new permit writers should work very closely with experienced permit writing staff. Consistency in determining reasonable potential and setting WQBELs makes permitting easier and more defensible. Such oversight and peer review is especially necessary when staff work only part-time on NPDES permit writing.
2. To protect beneficial uses, RWQCB 5 should issue permits that contain toxicity conditions which require accelerated effluent monitoring for toxicity following the measurement of

effluent toxicity at critical levels, as denoted by the exceedance of an effluent limit or benchmark (where no effluent limit has been established).

3. Periodic (i.e., annual) priority pollutant scans should be required of POTWs to ensure that data used to determine reasonable potential is still valid.
4. To prevent a backlog of expired permits from growing, RWQCB 5 should find ways to streamline reissuance of lower priority permits. These are permits that RWQCB 5 believes are uncomplicated and not in need of major changes. As we have done at EPA, this category of permits could be reissued in batches, as they will likely not be contested.
5. Reissuance of permits should be scheduled so that the annual workload will be similar from one year to the next. This will facilitate resource planning, which in conjunction with streamlining and establishing permit consistency, will help RWQCB 5 to keep up with the permitting workload and avoid building up a backlog of expired permits.

COMPLIANCE

Evaluation Procedures

Prior to visiting RWQCB 5's Sacramento, Fresno, and Redding offices, EPA reviewed data from the EPA Permits Compliance System (PCS) (updated quarterly from State Waste Discharge System (WDS) data submittals), quarterly noncompliance reports (QNCRs) prepared and submitted by RWQCB 5 from FY 1995 through FY 1998, and self-monitoring reports (SMRs) for the same period. Field activities at the three RWQCB 5 offices included interviews with the Chiefs (also referred to as "seniors") and staff of the appropriate units, review of files maintained by the staff, and review of staff inspection field notebooks. Subsequent to the office reviews, supplemental information was gathered by telephone conversations with some of the above staff.

RWQCB 5 staff are responsible for all NPDES activities from permitting through compliance and formal enforcement. Therefore, it was not possible for the EPA review staff to accurately estimate the resources utilized in individual program areas such as inspections or SMR review. However, the SWRCB has developed NPDES program cost factors to serve as the basis for determining NPDES program needs in California; these cost factors should be used in determining RWQCB 5's resource needs for compliance activities.

Compliance Tracking--Procedures

At all three RWQCB 5 offices, mail is received and date-stamped at a central location. Pertinent information is entered into manual or computerized (depending upon the office) tracking systems. The SMRs and other reports submitted in accordance with NPDES permits are routed either directly to the staff who are responsible for the facilities or to a central point for preliminary review. None of the tracking systems are capable of tracking late SMR receipt, as due dates are not in the data systems; the reviewers detect late submittals by manually comparing due dates to stamped dates. The Sacramento and Redding offices' data systems track non-submittal of SMRs, while the Fresno office's data system does not presently allow non-submittal of SMRs to be detected automatically. Use of the new SWIMS State-wide data system should solve this problem.

The Fresno office has developed a good data system for tracking receipt of reports other than SMRs. Any letter or notice that is sent to a discharger that requires response(s), (i.e., Notice of Violation (NOV), etc.), is logged, with due date(s), in the data system. A copy of the outgoing notice (i.e., NOV) and a computer generated cover sheet showing due date(s) is sent to the staff person who generated the letter or notice. Responses to the letters/notices are routed directly to staff. Staff logs the receipt date on the cover sheet and sends the sheet for data entry of the receipt date. The system also generates reports of overdue items which are sent to staff as a reminder to forward receipt information if the item has been received. Weekly, staff gets reports of overdue items for their facilities; management is copied on these reports. Staff then takes further action as necessary to obtain responses.

Some of the RWQCB 5 offices have developed screening systems for some of the SMRs. In the Sacramento office, one person screens SMRs submitted by major NPDES permitted facilities for limit violations and summarizes the violations noted on a LAN data base; these SMRs are then stored for staff to pick up for manual review. One problem noted was that violations are being screened using only the Technical Review Criteria (TRC) for the QNCR rather than the permit limits, while management and most staff mistakenly thought that all violations were being identified. In the Fresno office, SMRs had been being initially screened by student employees, with results being posted on a LAN data base. At the time of the review, however, new student employees had not been hired; therefore, SMR initial screening was not being conducted at the Fresno office, and all SMR reviews were conducted by staff. Other RWQCB 5 offices had or were using students for some type of screening of SMRs, but either had lost the positions or were in the process of selecting new students. Therefore, only the Sacramento office was conducting SMR screening for major NPDES permittees.

In all of RWQCB 5's offices, each staff person reviews SMRs for the facilities for which they are responsible by using the actual permit, the monitoring and reporting requirements, summary sheets, or spread sheets as references; most use the actual permit. The actual frequency of the reviews depends upon the individual staff person and workload. For major NPDES permittees, reviews range from monthly to quarterly (or occasionally even longer). Reviews of SMRs for minor NPDES facilities ranges from monthly to annually (or even longer--some staff only review SMRs before inspection or permit reissuance). Receipt of SMRs is not routinely acknowledged in writing. Minor violations may be responded to by a letter signed by the staff person, while more serious violations (as determined by the staff person) are normally responded to with a NOV signed by the senior or Unit Chief. As there are no written instructions as to what types of violations result in which type of response, it is up to individual staff to make this determination. As the seniors normally concur on all written correspondence signed by staff, the seniors thus can maintain some uniformity of response to violations. Periodically (usually monthly), staff members give SMR receipt and review information to either a central coordinator or a senior, who compiles the information for office management reports and quarterly submittal to the SWRCB.

After review, the SMRs and copies of any response letters are routed for filing. Most filing is done by the staff themselves even if clerical staff is available for filing; staff want to be

sure that "their" files are complete. Files are kept in central file rooms except in the Fresno office where files are kept at the individual staff person's desk. SMRs are usually maintained in a separate file, while the main file contains the permit, monitoring and reporting requirements, correspondence, inspection reports, enforcement actions, etc. There may be multiple files distinguished by date range. A review of the files showed that all were generally complete, although the most current data (SMRs, inspection reports, correspondence) in many cases had not yet been filed.

Quarterly or more frequently, staff input information regarding SMR violations into an automated system which varies by RWQCB 5 office. There is no uniformity among the RWQCB 5 offices regarding which violations are entered. In the Sacramento office, the "entered" violations are those exceeding the TRC criteria, entered by the SMR screener, and other violations deemed "significant" by staff, while in the Fresno office, entered "violations" include all violations noted by the student screeners. In the Redding office, each staff person is supposed to report any violation of permit limits on a form to the WDS coordinator, who enters the violations into WDS; however, this process could not be verified. None of the systems used are extensive, and none track non-compliance or follow-up actions over a long period of time. Periodically, selected violation information in the systems is included in reports to RWQCB 5's Board.

Also quarterly, staff of each RWQCB 5 office prepares the QNCR for their assigned facilities, as necessary, by editing (either via electronic mail or hard copy) the previous QNCR or adding new QNCR pages for facilities. The completed QNCR sheets are given to the respective RWQCB 5 office QNCR coordinators, who transmit their office's QNCR to the Sacramento office QNCR coordinator. The Sacramento QNCR coordinator compiles all of the pages into one QNCR for RWQCB 5, screens it for format problems, and sends it, via the supervisory engineer, to the Executive Officer for signature and transmittal to EPA. Any questions from EPA about content are referred back to the particular staff person responsible for the particular facility. The QNCRs received by EPA during the three years prior to this review have had some formatting problems, and occasionally excluded facilities which should have been reported.

Few of the staff at RWQCB 5's offices have had any formal training on the QNCR. Two recalled having attended the last EPA training course in 1992. Most of the staff in the Sacramento and Fresno offices had copies, or were aware of, the QNCR flowsheet prepared by the previous Fresno office QNCR coordinator, whereas staff in the Redding office were unaware of it. Most of the staff were aware of the 1996 change which added non-monthly average violations to the QNCR, but some were not checking the SMRs for these violations.

Compliance Tracking--Conclusions

Lack of ability to automatically highlight late SMRs (or, in the Fresno office, failure to submit SMRs), coupled with the variable frequency in which SMRs are reviewed, offers the opportunity for major NPDES facilities to be in non-compliance for three months (or more) without any corrective action being taken by RWQCB 5. Some minor NPDES facilities could be in non-compliance for up to five years before being discovered. Thus, the ability of RWQCB 5 to take "timely and appropriate" response to NPDES permit violations is compromised.

Lack of resources, which includes position allocation, contract money constraints, and hiring problems, is one reason given for RWQCB 5's compliance tracking problems. The most common response, however, was lack of time on the part of RWQCB 5 staff to do the review work. Staff said that permit issuance work, along with enforcement activity, took most of their time and meant that everything else received less attention than warranted.

While RWQCB 5's QNCR is generally adequate, there are problems with formatting and occasional problems of not listing all violations during the reporting period. Staff need training on the function and preparation of the QNCR. EPA and the SWRCB are preparing instructional materials for staff. This is a State-wide issue, as discussed in Appendix A.

Inspections--Procedures

At the beginning of each state fiscal year, RWQCB 5 seniors develop work plans with staff, including the inspection goals for the year. In the Sacramento and Redding offices, the inspection target for the year is all major NPDES permittees plus 20 percent of the minors; the inspection target in the Fresno office is all of the permittees (major and minor), although it is recognized that work constraints may reduce the number of minor inspections. In the Fresno and Redding offices, tentative inspection schedules are entered into WDS, and the seniors can use WDS to track scheduled versus accomplished inspections; in the Sacramento office, the seniors either have their own spreadsheets for inspection tracking or use work plans.

Notice to permittees of upcoming inspections ranges from none (show up on site without warning) to a few days. For those facilities without representatives routinely on site, advance notice is necessary. Staff of the Redding office normally conduct unannounced inspections, while staff of the other RWQCB 5 offices normally give one or two days notice.

About one-third of the inspections of major NPDES facilities conducted in inspection years (IYs) 1996 through 1998 by all RWQCB 5 offices are listed as having been sampling inspections (State type A1, EPA type S). The Fresno office reported the highest percentage of sampling inspections while the Redding office reported the highest number of sampling inspections. However, none of these “sampling” inspections included independent collection of composite samples by the RWQCB 5 offices. In the Sacramento and Fresno offices, only grab samples are collected. In the Redding office, split samples are obtained from the facility if a composite sample collected by the facility is available; otherwise, grab samples are collected. No information was available in the facility files concerning the adequacy of the facility-collected composite samples (sample location, sampler type, sample preservation, flow weighting technique, etc.).

Each of the RWQCB 5 offices has contracts with State-certified laboratories to conduct analyses of samples. Samples are delivered to the contract labs using chain-of-custody procedures; the chain-of-custody forms are provided by the contract labs or the office laboratory liaison staff. The contract lab provides the clean sample bottles with preservatives, if necessary, already in the containers. A review of chain-of-custody forms in the files showed that the

paperwork is excellent. However, in the Sacramento office, when samples are not delivered directly to the contract lab because of time constraints, the samples are stored in a refrigerator in the Sacramento office. As the refrigerator is not locked ("too inconvenient"), positive chain-of-custody is not maintained because the refrigerator and the samples therein are accessible.

For each RWQCB 5 office, time spent on site during an NPDES annual inspection varies with inspector and facility, but averages about two to three hours including, where done, a walk-through of the facility. One inspector stated that a senior (no longer there) had said that inspectors should be able to do four inspections in a day. Another inspector inspected five major facilities on the last day of the inspection year. Many inspectors said that adequate time was not available to conduct thorough inspections because of the heavy workload involved in issuing permits and taking enforcement actions, resulting in inspections often being put off until the end of the year.

Inspection findings are recorded in bound field notebooks, in steno pads, on loose-leaf paper, or on inspection forms during the inspection. Redding office inspectors use bound field notebooks exclusively, Fresno office inspectors mostly use steno pads, while Sacramento office inspectors use varying methods. Items checked during the inspection include facility site review, record keeping, operations and maintenance, operator and lab certification, compliance schedules (if any), etc., but not all are evaluated during every inspection. On-site laboratory analytical procedures are rarely evaluated as part of the inspection, as the inspectors are usually not qualified to do lab procedure evaluations and the permits require the use of State-certified labs for SMR work; most inspectors do check to see that certification is current. Compliance with EPA sludge regulations is not normally evaluated, although compliance with California sludge requirements, if included in the permit, may be evaluated.

Once back at the office, the RWQCB 5 inspector completes the Facilities Inspection Report (SWRCB 001 or WDS-generated equivalent with Waste Discharge Requirement (WDR) order and inspection history) which, when completed, is routed through the senior to the WDS coordinator for data input, and then returned to the inspector. If the inspection included samples, the inspector either waits for sampling results to come back before completing the form or marks "pending" on the form. The Form 001, any additional narrative, and any lab results are filed together in the facility file. Additional narrative is usually provided by using an Inspection Report memo format available on the LAN or, in the case of the Fresno office, by using an extended version of the 001 form on the LAN.

With few exceptions, inspectors do not prepare additional narrative to accompany the Form 001 summary information unless a violation or other unusual information was found or, for some inspectors, samples were collected during the inspection. There is seldom information in the reports regarding which items were reviewed and found to be satisfactory. Form 001 does have, on page 2, an "EPA Suggested Inspection Checklist" section which lists the major items which can be checked during an inspection and allows the items to be coded as satisfactory, marginal, unsatisfactory, or not evaluated; this section of the form is seldom filled out by the inspectors. The version of the form which is downloaded from WDS does not have this section.

During EPA's review, a few inspection reports were cross-checked with the corresponding field notes. Seldom were the field notes detailed enough to support the narrative in the reports, which implies that, much of the time, the reports were prepared from memory rather than contemporaneously. Some of the 001 Forms were dated as long as a week after the inspection, while narrative reports might be dated as long as a month after the inspection (based upon the date the report was mailed--the actual preparation of the narrative could have been earlier).

The policy of inspection report transmittal to the facility varies among the RWQCB 5 offices. In both the Sacramento and Redding offices, the general policy is to send reports only where there are problems noted or where samples were taken. In the Fresno office, the current policy is to send reports for all inspections. In each of the three RWQCB 5 offices, however, each inspector may have his/her own standard operating procedure for when to send reports. The method of transmitting reports depends upon the degree of non-compliance. An inspection report with no violations noted is usually transmitted by letter signed by the inspector, although usually the senior concurs on the letter before it is mailed. Inspection reports noting serious violations would normally be sent as a NOV signed by the senior (or higher).

With minor exceptions, copies of inspection reports are not being sent to EPA. Although some supervisors stated that it was policy to send copies of inspections of major NPDES permittees to EPA, staff of these supervisors were often unaware of the policy. In other cases, staff thought that clerical staff was copying EPA on report transmittals when in fact this was not being done.

Inspections--Conclusions

RWQCB 5 is doing an adequate job with regard to NPDES permit inspection frequency. During inspection years (IY) 1996 through 1998, almost all of the major permittees were inspected at least once per year as required by 40 CFR 123.26 (e)(5). The primary reason given for the few exceptions was workload associated with permit issuance. With regard to minor permittees, RWQCB 5 inspected almost all facilities which were operational during the entire five-year period IY 1993 through IY 1997, which essentially meets the EPA policy requirement of inspecting minor permittees at least once during the life (five years) of each permit.

Of concern is the quality of most of the NPDES inspections. 40 CFR 123.26 requires inspections to be conducted in a manner that will "Determine compliance or non-compliance with issued permit conditions ..." [(b)(2)(I)] and "...will produce evidence admissible in an enforcement proceeding or in court"[(d)]. However, inspection time on site is generally too short (about two hours) to be thorough, i.e., to evaluate all aspects of permit compliance including facility site review, record keeping, operations and maintenance, operator and lab certification, compliance schedules, flow measurement, and self-monitoring procedures (sample collection and compositing). The inspection reports do not indicate which aspects were reviewed and their status. This is a State-wide issue, as discussed in Appendix A.

Another concern is that most RWQCB 5 inspectors are not taking adequate field notes. The field notes are the actual record of the inspection and serve as primary evidence in any action

that may be taken. As the inspector's notes are more important than an inspection report (which is not contemporaneous unless prepared and completed on-site while conducting the inspection), should litigation occur, the notes should be sufficiently detailed to support both findings of violations and findings of compliance. For example, a permittee may request inspector's notes of inspection findings to defend itself against an enforcement action. Inspectors use of loose-leaf paper or steno pads rather than bound notebooks to record field observations is of concern. Using bound notebooks with numbered pages, with care taken so that all pages are accounted for (including, where appropriate, marking pages or portions of pages "deliberately left blank"), is the "gold standard" of note taking for field inspectors. 40 CFR 123.26(d) requires inspections to be conducted in a certain manner that "...will produce evidence admissible in an enforcement proceeding or in court." 40 CFR 122.41(j)(2) requires that permits contain a requirement that permittees maintain records of all monitoring information for a period of at least three years. As the permittee is thus required to maintain records which could be used for enforcement purposes for three years, it is a reasonable interpretation that this is the minimum requirement for keeping State inspection notes (which could be used as supporting evidence of compliance or non-compliance), as well. Common practice for inspectors is to keep their notebooks for their entire career. This is a State-wide issue, as discussed in Appendix A.

With regard to the transmittal of inspection reports, the APM states that copies of inspection reports will be sent to the facilities inspected. On average, the RWQCB 5 offices send a report to facilities only if violations are noted during the inspection. EPA has no requirement that reports of inspections be sent to the permittee. While all EPA guidance indicates that inspection reports are normally sent to the permittees, RWQCB 5's offices may choose to do otherwise. The primary purpose served by sending such a report, other than courtesy, is to provide the permittee with an official record that an inspection was conducted and whether or not violations were found. Balanced against this would be the time involved in preparation of the report, time for responding to any replies, and consideration as to whether sufficient information may have been provided to the permittee by the inspector during the closeout interview. Regardless, inspectors should be careful to complete the portion of Form 001 which indicates which compliance areas were observed/evaluated during the inspection, and note which areas were not evaluated. This minimizes the possibility of a permittee claiming, should violations be found later, that the inspector had observed and determined facility compliance with all compliance areas. This is a State-wide issue, as discussed in Appendix A.

Inspections are being labeled as sampling (State type A1) whenever samples are taken, even though the sampling does not conform to the permit sampling requirements (grab versus composite). This is not appropriate. The purpose of conducting sampling inspections is to determine compliance independently from the dischargers' self-monitoring and to provide a comparison on the data being reported by the permittee. This requires that independent, separate samples be taken by RWQCB 5's offices in accordance with permit monitoring requirements. Samples need to be collected and analyzed as specified in the permit monitoring requirements for a State type A1 inspection. This is a State-wide issue, as discussed in Appendix A.

Copies of RWQCB 5 inspection reports of NPDES major facilities are not being sent to EPA, as required by the MOA and the APM. Chapter 4 of the APM states that inspections

conducted to fulfill EPA requirements will be documented using both the State Form 001 and the EPA Form 3560-3 and that, for majors, the latter will be sent to EPA. EPA subsequently told the State that, as Form 001 and Form 3560-3 contain basically the same information, completion of the latter is not necessary. For EPA to maintain its oversight role, however, it must be generally knowledgeable of ongoing violations and any state and permittee actions regarding those violations. Thus, receiving copies of inspection reports which note violations is important. Also important is receiving copies of responses from the permittees regarding corrective actions taken. One possible way to ensure that EPA receives this information is to copy EPA on inspection transmittal letters (or NOVs) with the reports, and have the permittee copy EPA on responses (if any). For inspections where no violations were noted and the only report is the Form 001, entry of the data into WDS (or SWIMS) is sufficient to consider the report "sent" to EPA, as the WDS data is subsequently transferred into the EPA PCS data system. This is a State-wide issue, as discussed in Appendix A.

Spills and Complaints

Each RWQCB 5 office has its own way of handling complaints and spill reports, but generally a complaint or spill report is referred to the staff person responsible for the facility. The staff person decides on the appropriate response, if any, checking with the senior before conducting a field inspection; however, inspections are seldom done. In the Redding office, a form is completed if a field inspection (State type 04--complaint) is conducted so that the inspection data can be entered into WDS. None of RWQCB 5's offices have a rigorous system in place to log/track complaints or spill reports and follow-up (all the way through enforcement, if done), which would allow management to overview the effectiveness of responses. All RWQCB 5's offices need to develop a system which will allow such tracking (perhaps taking an existing automated system from another RWQCB which has a good system or using SWIMS, if the latter will include such a feature).

EPA CONCLUSIONS SUMMARY--COMPLIANCE

General Conclusion

The compliance activities in RWQCB 5 are marginal. Field presence is insufficient to assess compliance at NPDES-permitted facilities, and review of reports submitted by dischargers is often neither timely nor thorough. Resource limitations and higher priority activities such as permit issuance and enforcement, as well as allocation of resources and vacancies, are most often cited as reasons for the limited activity level.

Strengths

1. RWQCB 5's inspection coverage (number of site visits) of major and minor NPDES permittees generally meets EPA requirements, and many inspections are unannounced.
2. Chain-of-custody forms (or equivalent) are used for all samples.
3. Although filing systems varied throughout RWQCB 5's offices, the files generally contained all necessary information.

Required Changes - State-wide Issues

1. Field presence/compliance assessment at NPDES major and minor facilities is not adequate. Issues include use of appropriate sampling methods, adequacy of field inspection notes, and depth of on-site review. Inspections conducted by all RWQCBs, including RWQCB 5, must determine compliance with all of the NPDES permit requirements, including record keeping, reporting, operation and maintenance (including reviews of operators logs and maintenance records), laboratory methods/certification, sample point locations, compositing techniques, sample preservation and holding times, etc., and need to document compliance or noncompliance with all of the permit requirements. The notes must be kept for at least three years after the inspection.
2. Compliance review of Discharge Monitoring Reports (DMRs) is often not timely, especially for minors, State-wide. RWQCB 5 must review SMRs promptly (ideally monthly) in order to ensure that violations are identified and corrected as quickly as possible.
3. Copies of inspection reports of major permittees, as well as copies of responses from permittees about violation follow-up, must be sent by all RWQCBs to EPA, in accordance with the Memorandum of Agreement (MOA) between EPA and State of California.
4. The QNCRs submitted by all RWQCBs need improvement in quality and content.

Required Changes - RWQCB 5

1. RWQCB 5 must develop a tracking system for spills and complaints which includes data on reports, response, and follow-up.
2. RWQCB 5 must have a system to track late or non-submittal of SMRs (perhaps using SWIMS).
3. Inspections cannot be counted by RWQCB 5 as NPDES sampling inspections unless samples are collected in conformance with permit monitoring requirements (including 24-hour compositing, where required).

Other Suggestions

1. NPDES sampling inspections are resource intensive, and therefore RWQCB 5 should establish a rationale to determine when such inspections should be conducted. For example, detailed sampling inspections (24-hour composites) could be conducted six months prior to permit reissuance.
2. RWQCB 5 should consider having all inspectors use bound notebooks for note-taking during inspections.
3. RWQCB 5 should consider establishing an "automated" spill and complaint tracking system for all its offices. One of the systems used in another RWQCB might serve as a good example.

STORM WATER

EPA Evaluation Procedures

EPA's storm water compliance review consisted of two parts:

1. Interviews and discussions with RWQCB 5 staff and management at the Sacramento, Fresno, and Redding offices to assess storm water compliance activities, priorities, resource issues, and other challenges. The Sacramento office provided a draft work plan for the NPDES/Non-Chapter 15 section.
2. A review of selected files at each of RWQCB 5's offices, as follows: the municipal storm water (MS4) programs for the City of Stockton and the County of Sacramento were reviewed in the Sacramento office. Industrial and construction storm water files were spot checked in all three offices, including Forecast Homes in the Sacramento office.

Storm Water Staffing

As described below, RWQCB 5 staff are responsible for tracking dischargers' compliance with the following storm water permits: (1) seven MS4 permits issued by RWQCB 5, (2) two General Permits issued by the SWRCB governing storm water discharges from industrial and construction sites, and (3) several individual industrial and construction permits issued by the Redding office.

Sacramento Office

In the Sacramento office, there are four MS4 permittees: (1) County of Sacramento with three co-permittees; (2) City of Antioch and the Contra Costa County Flood Control District (most of the Contra Costa County storm water permit area is in RWQCB 2); (3) the City of Stockton and the County of San Joaquin; and (4) the City of Modesto. Under the SWRCB-issued general permits, there were approximately 1,026 industrial facilities and 851 construction sites subject to these two permits within the Sacramento office's jurisdiction, as of October 1998.

The Sacramento office's storm water program is allocated 18 percent of the NPDES program funding and five percent of the Non-Chapter 15 program, according to the draft work plan. One staff is assigned the lead role for storm water permits, mostly working with the two General Permits, tracking the receipt of Notices of Intent (NOIs), tracking and review of annual reports, identification of non-filers, and responding to telephone inquiries. Individual staff members are assigned to counties to maintain consistent points of contact with dischargers and for the public. Individual staff are responsible for compliance oversight of the MS4 permit, and for evaluation of compliance with the industrial and construction General Permits, including inspections in their assigned geographical area.

Within the past year, an experienced storm water lead left the Sacramento office. Sixty percent of the new storm water lead's time is assigned to storm water, and the remaining time is assigned to other activities. There are times when 90 percent of the lead's time is spent responding to storm water phone inquiries, for example, after the SWRCB sends letters to potential non-filers. The previous storm water lead was able to devote more time to storm water than the current lead is able to devote. Student employees track the receipt and file the paper work associated with the General Permit Dischargers, but at the time of the review, only one student with very limited hours was working on storm water.

Fresno Office

In the Fresno office, there are two MS4 permitted programs: Fresno and Bakersfield. Under the SWRCB-issued general permits, there were approximately 528 industrial facilities and 239 construction sites subject to these two permits within the jurisdiction of the Fresno office, as of November 1998.

The Fresno office is organized similarly to the Sacramento office. One storm water lead tracks the receipt of NOIs and annual reports, and individual staff are assigned geographic regions. At the time of this review, the current storm water lead had been employed by the Fresno office for one and a half months, had no storm water training, and had been on two inspections.

Redding Office

There are no MS4 programs in the Redding office. Under the SWRCB-issued general permits, there were approximately 145 industrial facilities and 83 construction sites subject to these two permits within the jurisdiction of the Redding office, as of November 1998.

The Redding office has two experienced staff who are responsible for most of the construction storm water sites (93 percent). These two staff persons are assigned construction sites in the three most active counties, with each responsible for approximately half of the construction NOIs. The remaining construction sites are overseen by staff persons working in the remaining counties. The storm water lead and the other main staff person spend approximately

half their time on storm water and the other half on specific, non-NPDES issues (i.e., landfills and timber). Timber and storm water make a nice combination because they are both best management practices (BMPs) oriented, and the timber issues lessen in autumn and winter, allowing time for storm water inspections at the time of the year when it is needed.

The NOIs and Annual Reports for the General Permit industrial dischargers are tracked for receipt by the storm water lead. The individual staff assigned to each county are responsible for compliance evaluation and follow-up. The Redding office plans to hire a student to help with reviewing and filing of the Annual Reports.

Storm Water Compliance Activities

Municipal

The Sacramento office's County of Sacramento MS4 program files were reviewed for the period of January 1996 through October 1998. In accordance with MS4 permit requirements, the County has submitted the work plans, Annual Reports, and proposed monitoring program documents on time, as required by its MS4 permit requirements. The County of Sacramento won the National Award for Excellence in Storm Water Management in the Municipal Category.

However, the file contained infrequent correspondence generated by the Sacramento office. The last outgoing correspondence was sent in August 1996 by the previous storm water lead. Since then, there is no indication that the permittee's submittals, in accordance with MS4 permit requirements, have been reviewed by the Sacramento office. Within the year prior to this review, two project officers for this permit had left RWQCB 5. The project officer was assigned the Sacramento area a month before this review, had never handled an MS4, and had been concentrating on renewing the Sacramento wastewater discharge permit. Therefore, none of the MS4 submittals had been reviewed. Though receiving little oversight by the Sacramento office, the Sacramento MS4 program appeared to be satisfactory, and not in need of immediate attention from RWQCB 5.

RWQCB 5 has been actively involved in enforcement of the storm water requirements against the Port of Stockton. The Board assessed an Administrative Liability Complaint (#97-501) which sought $500,000 in penalties. For this action, the RWQCB 5 file showed a calculation of economic benefit of $260,000. Following the Port's challenge to the State court, a settlement was reached which included payment of $50,000 in cash, and $350,000 to be spent by Port of Stockton on projects arising from a third party audit of the facility prompted by a companion citizen enforcement action. RWQCB 5 staff has been fully engaged in tracking compliance at the Port and the recommendations from the audit.

Industrial and Construction

Throughout RWQCB 5's offices, compliance activities in the industrial storm water program include Annual Report tracking and issuance of Notices of Violation (NOVs) for non-submittal of Annual Reports. Staff also responds to telephone and written inquiries from the

public, and inspects sites to verify Notices of Termination (NOTs) and Notices of Non-Applicability, to investigate possible non-filers, or to determine permit compliance status of permitted facilities. New construction sites are continuously being added to the system and completed sites taken off. The files in all the offices were in a central location and were in good order.

A greater inspection presence in the storm water program for both industrial and construction sites needs to be established by all RWQCBs; this program element is significantly under-funded State-wide (see Appendix A, State-wide issues).

Sacramento Office

In the Sacramento office, inspections of industrial facilities and construction sites are mostly conducted by the staff person assigned to the region. The Sacramento office tries to meet the goal contained in the draft for NPDES/Non-Chapter 15 workplan of inspecting five percent of all facilities annually. EPA was unable to determine if this goal was met because the inspections are not tracked in a database. Industrial inspections are limited to verifying NOTs and Notices of Non-Applicability, and to investigating possible non-filers which is important to ensure equity for all facilities covered under the General Permit. Due to a high staff turnover rate and the many different projects staff must complete, storm water is a low priority, few inspections are conducted, and contacts with local governments and other affected groups cannot be developed and maintained. The more experienced staff or the ones with fewer contentious issues are able to conduct a few inspections. Construction inspections are limited to complaints from citizens, resource conservation districts, and local government. Even when there are complaints, the Sacramento office does not always respond. RWQCB 5 stated that some citizens complain to RWQCB 5 and the SWRCB in an effort to use the construction General Permit to control urban growth.

The Sacramento office has taken an enforcement action (with field assistance by El Dorado County) against Forecast Homes, an El Dorado County construction site, following an October 1995 County-issued Notice of Non-Compliance with the County's grading ordinance. The Sacramento office staff recommended that the Executive Officer issue an Administrative Civil Liability Complaint in the amount of $40,000. On August 9, 1996, the Discharger was ordered to pay $25,000, and paid the penalty on April 7, 1997.

Fresno Office

In the Fresno office, few inspections of the industrial facilities and construction sites had been conducted in the year prior to this review for similar reasons as at the Sacramento office (high staff turnover and low priority). The Fresno office had a backlog of NOT requests to investigate. Processing NOT requests and conducting inspections to verify terminations was the top priority of the new storm water lead. In the one and a half months that the storm water lead had been with the Fresno office, only two inspections had been conducted. A standard storm water inspection report form was on the LAN system which could be filled out and printed by the inspector.

Redding Office

Inspections are recorded in the Redding office's automated tracking system. All NPDES staff conduct industrial storm water inspections as part of other permitted facility inspections (i.e., WDRs), but most of these do not get recorded for storm water "credit." Therefore, storm water field presence is underreported. At least 15 industrial storm water inspections were conducted by the Redding office in FY98. At the time of the review, the Redding office had received close to 100 percent of the Annual Reports.

Inspections of construction sites are mostly conducted by the storm water lead and one other staff person. The larger sites are inspected several times during the rainy season. At least 87 construction storm water inspections were done by the Redding office during FY98. The inspectors need to critically evaluate the use of BMPs to ensure that proven methods are used to control pollution discharges. The Redding office requests that all dischargers submit their Storm Water Pollution Prevention Plan (SWPPP) when the NOI is received. Letters advising construction site dischargers of their storm water responsibilities have been sent out yearly. The construction storm water program receives more resources than the industrial storm water program.

EPA CONCLUSIONS SUMMARY--STORM WATER

Strengths

1. Industrial Annual Report receipt is tracked by RWQCB 5, and non-submitters were notified by all three of RWQCB 5's offices.
2. Construction storm water inspection coverage in the Redding office is good, and the larger sites are inspected several times during the rainy season.
3. Industrial and construction storm water inspections in the Redding and Fresno offices are tracked.
4. Letters advising construction site dischargers of their storm water responsibilities have been sent out yearly by the Redding office.
5. The industrial and construction storm water program files are complete and well organized in all RWQCB 5's offices.
6. The permittees of the Sacramento MS4 permit won national recognition for their storm water program.

Required Changes--State-wide Issues

1. RWQCB 5 needs to establish more field presence in the construction and industrial storm water programs, especially in the Sacramento and Fresno offices. A greater inspection presence in the storm water program for both construction and industrial sites needs to be established at all RWQCBs, as discussed in Appendix A, State-wide issues.

Required Changes-- RWQCB 5

1. RWQCB 5 needs to review MS4 annual reports and other submissions to ensure compliance with permit requirements.
2. RWQCB 5 needs to be responsive to storm water program complaints. Complaints regarding construction sites are not always addressed, specifically by the Sacramento and Fresno offices.

Other Suggestions

1. RWQCB 5 should further develop storm water program expertise and provide more training for the staff.
2. RWQCB 5 should critically evaluate the use of BMPs to ensure that proven methods are used to control pollution discharges.
3. RWQCB 5's Sacramento office should track storm water inspections; the Redding office should report all storm water inspections completed.
4. RWQCB 5 should establish internal and external staff contact points for NOI submitters and for municipal and county storm water coordinators.

ANIMAL FEEDING OPERATIONS (AFOs)

Evaluation Procedures

RWQCB 5 manages an Animal Feeding Operations (AFOs) program in the Redding, Sacramento, and Fresno offices; however, this review was limited to the Sacramento and Fresno office's programs due to their greater inventory of AFOs, and concentrated on dairy facilities, which represent the majority of AFOs in RWQCB 5. EPA conducted an in-depth review of a subset of dairy program files in Sacramento and Fresno offices. EPA evaluated: (1) overall program effectiveness (e.g., program implementation, staffing, etc.), (2) permitting, (3) compliance/ inspections, and (4) enforcement.

In the Sacramento office, interviews were conducted with the manager of the dairy program to discuss staff assignments, resource allocation, and the regulatory structure of RWQCB 5. EPA examined how the NPDES and Porter-Cologne based programs were being managed, and RWQCB 5's resource tables were reviewed. The two technical field staff were interviewed to assess the permitting program, compliance/inspection activities, and the enforcement program. EPA also reviewed representative inspection and permit files and the most recent enforcement actions taken by RWQCB 5. In the Fresno office, a similar review procedure was followed with the dairy program manager and the field inspector.

EPA Conclusions

Permitting

The Sacramento and Fresno offices' permitting programs consist of the NPDES-based General Industrial Activities Stormwater Permit (General Permit) and the State Porter-Cologne Act based Waste Discharge Requirements (WDRs). In the Sacramento office, nine permits and

files were reviewed for dairies located in San Joaquin, Sacramento, Stanislaus, and Merced Counties. In the Fresno office, eight permit files were reviewed for the dairies located in Tulare, Fresno, and King Counties.

In Fall of 1998 under the NPDES program, the Sacramento office, in conjunction with the SWRCB, provided a fact sheet to the Western United Dairymen's Association and the California Dairy Campaign. Both entities disseminated the information to their members. This fact sheet provided key information about the NPDES/General Storm Water Permit program that includes Concentrated Animal Feeding Operations (CAFOs) with 200 to 700 mature cattle and either potential for discharge or with recorded discharges. The General Permit includes key components requiring Waste Discharge Reports for incidents of discharge and submittal of a Storm Water Pollution Prevention Plan (SWPPP). A boilerplate copy of the General Permit accompanies each file. The Board staff did not follow up to validate the permit status of the facilities that failed to file Notices of Intent to be covered under the General Permit (the non-filers). Based on RWQCB 5's record of the census and interviews with RWQCB 5 staff, the Sacramento and Fresno offices have within their jurisdiction about 400 and 350 dairies, respectively, with 700 or more mature cattle that are subject to the General Permit. The total universe of AFOs is about 1,200 and 600, respectively, in the Sacramento and Fresno offices' jurisdiction. Only about one-third of these 700-plus herd dairies have actually submitted NOIs. The remaining non-filers are not addressed until the inspector visits one of these sites during a routine inspection. Also, the inspectors do not review the on-site SWPPP for dairies subject to a General Permit for its completeness and implementation. The main reason cited for the failure to follow up on these issues is limited field staff resources.

Under the Porter-Cologne Act, RWQCB 5 issues Waste Discharge Requirements (WDRs) to dairies found in non-compliance through inspections, file reviews, or complaints. The facility is then requested to address the problem and modify the site conditions. If the facility fails to comply with the WDRs or the NPDES requirements, then RWQCB 5 can issue an Administrative Civil Liability Complaint (ACLC) to impose a monetary penalty, and a Clean Up and Abatement Order (CAO) to order the appropriate site modifications to meet the standards. The Sacramento and Fresno offices actively implement this program.

RWQCB 5 staff are using the California Water Code/Porter-Cologne based programs to cite non-compliers. However, the NPDES-based General Permit program is not being used to its maximum effectiveness. Approximately 750 dairies are subject to the General Industrial Stormwater Permit; however, little is being done to follow up on non-filers. Of the approximately 250 dairies that have submitted NOIs, less than 50 SWPPPs have been reviewed for their completion and implementation.

Both the Sacramento and Fresno offices are significantly understaffed, and are unable to effectively manage the permitting workload for new and existing facilities. For example, the Fresno office currently has 120 new permit applications for dairies. Of these, 90 applications are for facilities that exceed 700 cows, and 30 applications are for facilities that exceed 4,000 cows. The standard procedure in the Fresno office is to waive requirements if the diary owner represents that the minimum requirements required by State law have been met (such as low permeable clay

layers under waste ponds). In the past, the Fresno office had staff available to determine if the permit application was complete, and if these minimum requirements had been met. At the present time, the Fresno office does not have staff able to perform either of these functions. State regulations require a determination on the completeness of the permit application within 30 days of its submittal, and issuance of State WDRs within 120 days of the submittal of a complete application.

Compliance and Inspections

The Sacramento and Fresno offices' compliance and inspection programs actively track the violations of the federal NPDES program and State's Porter-Cologne authority for those facilities with permits, but not the non-filers. Both offices maintain well-organized, computerized compliance status systems whereby a spreadsheet provides facility profiles, violation types, dates of violation, and information deadlines. Inspectors input their field data into the systems and routinely check on the compliance status of each dairy. A warning is provided by their computers which alert the technical staff of upcoming deadlines for cited requirements. In addition, the Fresno office maintains a well-organized paper filing system of all its compliance cases. In contrast, the Sacramento office paper files are poorly maintained. Many files were out of date, and the dairy storm water files were difficult to locate because of a disorganized structure. The lack of organization was complicated by the fact that dairy files were randomly placed among all the categories of industrial activity files.

For both the Sacramento and Fresno offices, the inspection program utilizes a strong compliance assistance element. A close relationship is established between the inspectors and local dairymen. The inspectors provide routine technical assistance which appears to promote compliance. The Sacramento office conducts routine inspections of non-complying systems. Each inspector tracks and inspects an average of 150 facilities per year in the Sacramento office and 70 facilities per year in the Fresno office. Neither office, however, verifies the on-site presence and implementation of SWPPPs. The inspection efforts are further weakened by their limited field resources, with only two inspectors per 1,200 AFOs in the Sacramento office and only one inspector per 600 AFOs in the Fresno office.

The Sacramento office's managers and staff are well experienced and knowledgeable, though the filing system requires improvement. The Fresno office's program knowledge is limited due to staff inexperience. Staff turnover is of concern, with the most experienced inspectors at the Fresno office having less than a year's experience. Also, both offices appear overwhelmed with tracking and inspection duties. The universe of dairies far exceeds the staffing assigned to the program.

Enforcement

The Sacramento and Fresno offices' enforcement programs consist of NPDES-based and Porter-Cologne-based enforcement. Both offices can utilize well-established enforcement protocols depending on the type and severity of the violations. The Fresno office indicated that they have not had recent violations requiring enforcement action. Their files indicated one

complaint which was addressed by the issuance of WDRs. The Sacramento office files indicated 27 violations of the Porter-Cologne Act which were addressed with 12 CAOs, two ACLCs, and 13 Cease and Desist Orders. When the Sacramento office staff identify NPDES violations while in the field, they refer the cases to the U. S. Attorney's Office or the State Attorney General's Office. Currently, the Sacramento office is an active participant in the Northern Central Valley Dairy Enforcement Task Force consisting of numerous state and federal agencies, local District Attorneys, and the U. S. Assistant Attorney. The Fresno office indicated that it would establish and become a participant in the Southern Central Valley Dairy Enforcement Task Force, headed by the same Assistant U. S. Attorney's Office.

EPA CONCLUSIONS SUMMARY--AFOs

The Sacramento office of RWQCB 5 maintains a strong enforcement program, given the limited resources available, and actively participates in the Dairy Enforcement Task Force. The Fresno office is taking steps to increase its effectiveness and strengthen its enforcement program by participating in the Southern Central Valley Dairy Enforcement Task Force. However, both offices appear overwhelmed with tracking and inspection duties. The universe of dairies far exceeds the staffing assigned to the program.

Strengths

1. As resources allow, both the Sacramento and Fresno offices conduct routine inspections and perform compliance tracking.
2. The Fresno office maintains an effective hard copy filing system to support their computerized compliance tracking system.
3. The Sacramento office maintains well-experienced, knowledgeable staff.

Required Changes--RWQCB 5

1. Both the Sacramento and Fresno offices need to review on-site files for the required SWPPPs, WDRs, NOIs, etc., and to determine permit status for non-filers. If non-filers are found to be discharging, enforcement actions should be taken for the discharge and for the failure to comply with the general permit requirements.
2. Both the Sacramento and Fresno offices lack adequate staffing, both for field work and for permitting. Although staff presence in the field is consistent and routine, current staff can only inspect a fraction of the entire universe of AFOs/CAFOs per year. Lack of inspectors is a key factor contributing to the inability of RWQCB 5 to follow up on the permit status of non-filers and to verify the on-site existence and implementation of SWPPPs. Both offices need to increase the number of inspectors.
3. The Sacramento office maintains an inconsistent and incomplete filing system which needs to be improved.

Other Suggestions

1. The high staff turn over rate in the Fresno office should be addressed. The down time which results from an absent position and the time required to train new staff on an annual basis weakens the program.

PRETREATMENT

EPA Evaluation Procedures

EPA's pretreatment review of RWQCB 5 consisted of five parts:

1. A review of the Memorandum of Agreement (MOA), the Administrative Procedures Manual (APM), applicable portions of recent CWA Section 106 Workplans, and reference to the Federal regulations for pretreatment in 40 CFR Part 403.
2. Interviews with RWQCB 5 staff; a review of program files at EPA and at RWQCB 5's Sacramento, Fresno, and Redding offices; a review of the RWQCB 5 106 workplan; and a review of EPA's Permits Compliance System (PCS) summaries.
3. An evaluation of RWQCB 5 permit language for Central Valley POTWs pertaining to their regulation of industrial users.
4. A determination of whether RWQCB 5 conducts the permitting, inspection, enforcement, and administrative work necessary to regulate local pretreatment programs.
5. A determination of whether there are adverse environmental results and regulatory impacts stemming from pretreatment programs. These include pollutant pass-through at POTWs, POTW interference, sludge contamination, and poorly regulated industrial users, especially those subject to technology-based Federal standards.

Pretreatment Introduction

The regulation of industrial wastewaters poses a number of unique difficulties in the Central Valley. First, many small POTWs in the Central Valley have only a few large, usually agriculture-related, industries in town. Not only can these industries overload small sewage treatment plants, but often they have enough influence and technical knowledge to frustrate local, small town regulation. Second, the widespread reclamation of domestic wastewaters in the southern end of the Central Valley restricts the salt loads that industrial users can discharge into the POTWs. Third, most Central Valley POTWs are inexperienced in the regulation of toxic pollutants because the permits for their sewage treatment plants generally lack numerical water quality based effluent limitations for toxics.

EPA understands that RWQCB 5 has placed a low priority on pretreatment, both in funding and in development of programmatic expertise, and that the State of California does not exercise its authority to directly regulate industrial users. These are State-wide issues, as discussed in Appendix A. For these reasons, EPA's review of the status of the RWQCB 5 pretreatment program attempted to determine whether the low priority on pretreatment resulted in any environmental or regulatory problems.

RWQCB 5 Pretreatment Program Oversight

RWQCB 5 is the approval authority with the responsibility for the regulatory oversight of the 21 approved local pretreatment programs in the Central Valley. Four of the approved local programs are permitted solely under State-issued Waste Discharge Requirements (WDRs) pursuant to State regulation, because these POTWs do not discharge to surface waters. RWQCB 5 also is responsible for the approval of new local pretreatment programs as well as the regulatory oversight of POTWs without approved local pretreatment programs, but with contributing industrial users.

EPA identified 18 POTWs without approved local pretreatment programs that receive industrial wastewaters from significant industrial users, and at least four others with industrial parks or monitoring results indicative of industrial contributions. Eight of the POTWs without approved pretreatment programs do not discharge to surface waters.

In the Central Valley, and throughout California, most industrial wastewaters discharge to POTWs under the regulation of their local pretreatment programs. The POTWs within the authority of RWQCB 5 regulate 414 significant industrial users (approximately nine percent of the total for the State), over 140 of which must comply with complicated, nationally promulgated, technology-based, Federal categorical standards for toxics. By comparison, there are approximately 160 industries permitted by RWQCB 5 for direct discharge to surface waters, very few of which must comply with any technology-based or water quality related numerical standards for toxics. As a result, the local pretreatment programs account for the vast majority of the toxics control accomplished under the Clean Water Act in the Central Valley, as illustrated in the attached Table 3a.

The responsibilities related to the oversight of pretreatment include the incorporation of appropriate pretreatment language in POTW permits, the development and approval of new local pretreatment programs, the review and approval of modifications to existing local programs (local limits in particular), oversight through inspections and report reviews, enforcement, technical assistance, and the direct regulation of industrial users where necessary. The Sacramento and Fresno offices geographically assign pretreatment to area engineers. Each area engineer carries out all regulatory and oversight activities for their assigned POTWs, including all pretreatment-related work. The Redding office also geographically assigns the permit work to area engineers, but designates one staff person to carry out the other pretreatment-related work.

RWQCB 5's offices do not determine the scope and timing of all of their pretreatment-related work because it is mostly based on permit issuance and on-site reviews, as scheduled in the State's 106 workplan. In particular, the incorporation of appropriate pretreatment language in POTW permits occurs when the permits are reissued, and on-site reviews are to be conducted in accordance with the State-wide 106 workplan. However, RWQCB 5's offices do determine how and when or even whether it is a priority to accomplish all other pretreatment-related work.

Permit Language

RWQCB 5 actively incorporates pretreatment-related language (referencing the Federal pretreatment rules) in its permits for most (33 of 43) of the Central Valley POTWs with significant industrial users. RWQCB 5 incorporates this language in the permits for POTWs both with and without surface water discharges, in keeping with the objectives of 40 CFR 403.2 to prevent pass-through, interference, and sludge contamination, and to improve the opportunities to recycle municipal wastewaters and sludges.

However, the permit language is not consistent. The majority contain standard language referencing 40 CFR 403 in general, the specific Federal categorical standards of 403.6, and the program requirements of 403.8 *(Atwater, Bakersfield, Fresno, Lodi, Madera, Merced, Modesto, Redding, Sacramento, Selma-Kingsburg-Fowler, Stockton, Tulare, Turlock, Vacaville, Visalia, West Sacramento, Yuba City*). Two others expand the language to also include the general prohibitions against pass-through and interference and the specific prohibitions of 403.5 (*Roseville, Tracy*). Three reference 40 CFR 403 in general, but only specifically reference 403.5 (*Davis, Vacaville Industrial, Woodland*). Eleven permits only reference 403.5 (*Anderson, Chester, Chico, Corning, Olivehurst, Oroville, Quincy, Reedley, Taft*), or 403.5 and 403.6 (*Red Bluff, Shasta Lake*). Two of the ten permits with no references to the Federal rules include the discharge prohibitions of 403.5 without citation (*Newman*) with an added requirement to disclose new industrial sources (*Gustine*). The others have no pretreatment-related requirements (*Colusa, Galt, Hanford, Livingston, Orland, Ripon, Sanger, Shafter*).

RWQCB 5 should incorporate the expanded language of the Roseville permit into all approved pretreatment program permits. For POTWs without an approved program, the permit language should cite 403.5 and 403.6 (i.e., the Red Bluff permit) and require disclosure of new industrial sources (i.e., the Gustine permit).

New Pretreatment Program Approvals

RWQCB 5 has not completed the new program approvals for POTWs that require approved pretreatment programs. All 21 of the approved pretreatment programs were approved by EPA before the State received delegation of the pretreatment program in 1989. However, at least six other POTWs now qualify for an approved pretreatment program as required by 40 CFR 403.8(a). Five qualify because their wastewater treatment plants accept industrial wastewaters and their design capacities exceed 5 million gallons per day (*Atwater, Chico, Hanford, Oroville, and Tulare*). At least one other qualifies because industrial wastewaters cause treatment plant interference *(Gustine--with three Significant Industrial Users (SIUs))*. RWQCB 5 is actively pursuing the development and approval of the Chico and Gustine programs, but the others are not on a firm time schedule for completion anytime soon. A number of other POTWs could qualify because industrial wastewaters may cause contaminant pass-through (*Reedley, Orland*), treatment plant interference (*Taft, Livingston*), or sludge contamination (*Anderson, Quincy, Reedley*). See also the *Direct Industrial User Regulation* report section, below.

Pretreatment Program Modifications

RWQCB 5 performs some, but not all of the administrative work associated with reviewing and approving pretreatment program modifications in accordance with 40 CFR 403.18. Most pretreatment program modifications involve the development, adoption, and approval of technically-based local limits recalculated to incorporate new permit conditions. Seven of the POTWs, which have or should have an approved pretreatment program, obtained RWQCB 5 approval of their local limits (*Chico, Davis, Redding, Stockton, Turlock, Visalia, West Sacramento*) and three others are in the process of obtaining approval (*Gustine, Madera, Woodland*). However, RWQCB 5 has not reviewed eight local limits proposed during the past permitting cycle (*Fresno--1996, Lodi--1994, Modesto--1997, Roseville--1992, Selma-Kingsburg-Fowler--1992, Tracy--1995, Vacaville Industrial--1998, Vacaville--1998*), nor obtained up-to-date proposals from the other POTWs.

Oversight Activities

RWQCB 5 did not provide full regulatory oversight of its approved pretreatment programs. The State, in its 106 workplan, agrees each year to conduct on-site inspections or audits (reviews) of approximately 50 percent of the approved pretreatment programs State-wide. RWQCB 5 conducted seven of the 10 on-site reviews of its approved programs listed in the State FY1995/1996 106 workplan, four of the 11 in the State FY1996/1997 workplan, and six of the nine in the FY1997/1998 workplan. Therefore, in those fiscal years, RWQCB 5 conducted on-site reviews of less than 30 percent of its approved pretreatment programs each year. In fact, some approved pretreatment programs have not been inspected or audited since mid-1995 *(Lodi, Sacramento, Stockton, Tracy*), although EPA audited Stockton and Sacramento in 1996.

Moreover, while RWQCB 5's on-site reviews involve a thorough determination, following a standard checklist, of whether the approved programs perform their necessary work, they do not determine the quality of work. For example, most RWQCB 5 inspection and audit reports note when approved programs have expired industrial user permits, but they do not verify that the industrial user permits are correct in their application of Federal standards, in new source determinations, in setting representative sample points and protocols, or in choosing pollutants of concern. The review reports note industrial user significant non-compliance, but do not determine whether treatment-in-place or loading controls for salts or organics are adequate. Many of the reports note, but do not explain instances of adverse environmental impact from industrial contributions. In these ways, oversight could be improved to better ensure the effective regulation of the industrial users contributing to the POTWs. The seven review reports reviewed in-depth for content had these deficiencies (*Madera--1997, Modesto--1996, Redding--1997, Selma-Kingsburg-Fowler--1997, Turlock--1997, West Sacramento--1996 and 1997*).

Originally, EPA and the State together were expected to conduct yearly on-site reviews of all approved pretreatment programs. The original expectations arose out of EPA guidance that extended the objectives of 40 CFR 123.26(e)(5) to the national pretreatment program, which requires inspection of all major permittees once per year. Over the years, EPA agreed to reduce on-site reviews for "well-run" approved programs to every two years. EPA and the State agreed

that well-run meant no environmental or regulatory problems related to pretreatment and that this could be determined through yearly review of the annual reports. The State of California adopted this approach to pretreatment oversight in the 1996 APM chapter on pretreatment. Nevertheless, the numerous "weak" pretreatment programs with adverse environmental and regulatory impacts in the Central Valley argue against a continuation of this approach. See the sections on *Environmental Results* and *Regulatory Impacts*, below.

A better scheduling approach might involve audits in the year just prior to permit reissuance and yearly on-site reviews of the approved programs experiencing any environmental or regulatory problems. The yearly inspections should focus on the industries contributing to the problems and likely should involve their inspection. The audits should determine the quality of local permits as well as the compliance status of the industrial users in terms of treatment and loading controls, both of which entail some industrial user inspections. The audits should also assess the environmental and regulatory issues expected with the next permit, the need for new local limits, and the completion of work, all of which can be accomplished in office reviews. See *Direct Industrial User Regulation*, below.

Technical Assistance/Pretreatment Program Expertise

RWQCB 5 provides little pretreatment-related technical assistance to the POTWs and no assistance to industrial users. The complexity and scope of the pretreatment program and its central role in control of toxics requires a great deal of experience and expertise, not available to most POTWs, especially the small ones that predominate in the Central Valley. However, familiarity with the Federal regulations pertaining to pretreatment including the Federal categorical standards as well as with the different industrial wastewater treatment technologies is difficult to develop without broad experience in industrial user permitting, inspection, and enforcement. In other words, in order to provide meaningful technical assistance, the State as a whole and RWQCB 5 in particular need to develop the capability to do the same difficult technical and legal work related to pretreatment required of the POTWs. See *Direct Industrial User Regulation*, below. This is a State-wide issue, as discussed in Appendix A.

Direct Industrial User Regulation

The State as a whole and RWQCB 5 in particular do not issue permits to the industrial users of POTWs without approved programs and never enforce against violating industrial users. The State and RWQCB 5 also almost never conduct inspections of industrial users either as part of the on-site reviews of the approved pretreatment program or in response to the specific instances of POTW non-compliance related to industrial wastewater contributions. The reasons for direct regulation of industrial users under certain circumstances involve not only improving the implementation of the RWQCB 5 pretreatment program, but also the likely mitigation of many of the environmental and regulatory problems related to pretreatment in the Central Valley. See the above sections on *New Pretreatment Program Approval*, *Oversight Activities*, and *Technical Assistance* and the following sections on *Environmental Results* and *Regulatory Impacts*.

Direct regulation of industrial users by the State does not appear to be a question of legal authority. The State has the authority to directly regulate industrial users according to the 1989 Attorney General's statement on acceptance of formal delegation of the Federal pretreatment program. Moreover, the 1996 APM chapter on pretreatment prescribes direct regulation of the categorical industrial users of the POTWs without approved pretreatment programs (at least 22 categorical IUs in 10 POTWs; see the attached Table 3a.). This is a State-wide issue, as discussed in Appendix A.

RWQCB 5 Pretreatment Program Oversight Status--EPA Conclusions

EPA, and to a lesser degree, the SWRCB, have performed some of the pretreatment program work for RWQCB 5. In particular, in 1996, EPA Region 9 conducted comprehensive audits of the two approved programs with the largest number of categorical industrial users (*Sacramento, Stockton*). These audits, called "pretreatment performance evaluations," involved approximately 30 on-site inspections of significant industrial users and review of the technical basis for local limits. These activities resulted in four EPA enforcement actions against violating industrial users (*Alta Plating, Campbell Soup, Georgia-Pacific, McClellan Air Force Base*). In addition, EPA provides technical assistance to Central Valley POTWs that call, write, or attend conferences. However, most of the assistance is provided to the larger POTWs with approved programs.

Environmental Results in RWQCB 5

The first objective of the pretreatment provisions of the Clean Water Act in Section 307 is to prevent the environmental problems that can be caused by the introduction of non-domestic wastewaters into POTWs. Non-domestic wastewaters carry pollutants that pass through domestic sewage treatment plants and impair the beneficial uses of the receiving waters or hamper wastewater reuse. They also carry pollutants that inhibit, overload, or otherwise interfere with the operations of the sewage treatment plants, or that concentrate in the sludge at high enough levels to hamper water reclamation or disposal. The goal, as related in the Federal regulations in 40 CFR 403.2, is to ***prevent every instance*** of pass-through, interference, or sludge contamination caused by non-domestic wastewater discharges from industrial users into POTWs.

Nevertheless, at least 21 (49 percent) of the 43 Central Valley POTWs with significant industrial users experienced recent instances of pass-through, interference, or sludge contamination, even though the possibility of pass-through is lessened since most of the permits for Central Valley sewage treatment plants lack numerical effluent limits for toxics. Eleven (52 percent) of the 21 POTWs with approved pretreatment programs experienced recent instances of pretreatment-related environmental problems (*Bakersfield, Modesto, Newman, Redding, Roseville, Stockton, Vacaville, Visalia, West Sacramento, Woodland, Yuba City*). The other POTWs with instances of pretreatment-related environmental problems operate without approved pretreatment programs *(Anderson, Chico, Gustine, Livingston, Orland, Oroville, Reedley, Quincy, Taft, Tulare*).

Pass-Through

Since 1996, seven Central Valley POTWs experienced the pass-through of pollutants at high enough levels to result in violations of the permit effluent limits for their sewage treatment plants (see the attached Table 3b). Most of these pass-through events involve the chronic discharge of salts and the resulting violations of the electrical conductivity limits in the permits of sewage treatment plants in the southern end of the Central Valley.

There are similar instances of pass-through affecting POTWs in parts of EPA's jurisdiction outside of the Central Valley which also establish permit effluent limits related to salt impairment and reuse. There also have been a number of pass-through events at POTWs outside of the Central Valley related to the discharge of toxics, usually metals, in violation of specific numerical permit limits. EPA expects the pass-through of toxics to become more prevalent in the future as the permits for Central Valley sewage treatment plants begin to incorporate specific numerical permit limits for toxics. EPA also expects a resulting increase in the number of new proposals for local limits.

Interference

Interference is particularly serious when industrial contributions cause the entire discharge from a sewage treatment plant to violate a range of permit limits. In effect, certain industrial contributions can compromise or even nullify the public resources invested in sewage treatment by the POTWs. Since 1996, seven Central Valley POTWs experienced operational interferences, caused by industrial contributions, that were severe enough to result in violations of the permit effluent limits for their sewage treatment plants (*Bakersfield, Gustine, Livingston, Newman, West Sacramento, Yuba City*) or in a public safety hazard (*Chico*). These interference events are listed in the attached Table 3c and are discussed below.

Three of the interferences since 1996 are the result of chronic and as of yet uncorrected, on-going conditions related to the treatability of the industrial wastewaters (*Gustine, Livingston, Newman*). The other instances since 1996 were more isolated events and not the result of chronic on-going conditions. Prior to 1996, at least two other Central Valley POTWs experienced serious operational interferences caused by industrial wastewaters (*Modesto 1986--food processors, Sacramento 1990--Proctor & Gamble*).

Prior to this review of RWQCB 5, EPA was aware of only a few instances of interference since the mid-1980s at any of the hundreds of POTWs holding the 102 approved pretreatment programs in EPA's region outside of the Central Valley, and only two of these instances were of major consequence *(Chino Basin 1986--chromium coater, Reno-Sparks 1988--nickel plater*). Central Valley POTWs which employ activated sludge are particularly at risk for interference because many of the small capacity plants accept high-strength industrial wastewaters. The predominance of food processors, especially milk and milk products processors, increases the risk of organics overloads and treatability problems. The prevalence of small POTWs with categorical industrial users increases the risk of biological inhibitions from toxic metals.

Sludge Contamination

Since 1992, ten Central Valley POTWs reported sludge contamination at concentrations for metals exceeding the clean sludge limits suitable for reuse in 40 CFR 503, as listed in the attached Table 3d. Sludge contamination made disposal of the sludge substantially more difficult for two of the POTWs (*Anderson, Visalia*). Sludge contamination is usually an indication of chronic, not slug, loadings of metals, often from industrial sources but also from domestic sources and infiltration. The ten POTWs, with one exception, all accept industrial wastewaters from metal finishers, 33 in total, as well as from 19 other categorical industrial users with metal-bearing wastestreams (can making, aluminum forming, metals casting, silver recovery, organic resins, wood preserving, steam electric generation, and ink formulation). As a result, much of the sludge contamination either was the result of chronic metals loadings from known industrial users (*Redding, Reedley, Visalia*) or a possible result of industrial contributions (*Anderson, Oroville, Roseville, Quincy, Stockton*). Infiltration from agricultural areas and not industrial sources is the likely cause of elevated arsenic (*Modesto, Vacaville*).

In addition, Lodi (a surface water discharger with an approved pretreatment program) mixes the entire untreated discharge from six metal finishers and a canning plant with the sludge from its sewage treatment plant for irrigation disposal. The RWQCB 5 permit does not require determination of the total metal content of the sludge and industrial wastewater mixture. EPA could not determine compliance with 40 CFR 503 for Lodi.

Since 1993, just 10 of the 102 POTWs with approved pretreatment programs in EPA's region outside of the Central Valley experienced sludge contamination from metals other than molybdenum (*Colton, Dublin-San Ramon, Goleta, Hayward, Los Angeles-Terminal Island, Palmdale, Phoenix-23rd, Pima County, San Leandro, Santa Rosa*).

Environmental Results--EPA Conclusions

EPA identified these environmental problems from annual reports, discharge monitoring reports, sludge reports, and correspondence in the RWQCB 5 files. This was not a comprehensive review for pass-through, interference, and sludge contamination. Nevertheless, many of the environmental problems, including any that were not identified through this review, could be mitigated through increased attention to the pretreatment program. See the previous sections on *Oversight Activities* and *Direct Regulation Of Industrial Users*.

Regulatory Impacts in RWQCB 5

The second objective of the pretreatment provisions of the Clean Water Act in Section 307 is the application of national standards to certain categories of the nation's most contaminated and treatable industrial wastewaters. The Federal categorical standards are based on the designated "best-available-technology" and apply without exception, nationwide, to all qualifying direct and indirect dischargers. The industries with Federal categorical standards include metal finishers, oil refineries, semiconductor manufacturers, metals manufacturers, metals formers, and can makers. The Federal categories do not extend to many indirect dischargers, such as food processors,

because downstream sewage treatment plants provide the "best-available-technology" to treat non-toxic contributions. A related objective is thus the effective use of RWQCB 5 and POTW resources in regulating the industrial contributions to the POTWs.

The regulatory impacts of insufficient emphasis on pretreatment include the uneven regulation of categorical industrial users and the ineffective regulation of certain other significant industrial users. These regulatory impacts can result in or contribute to environmental problems.

Unregulated Categorical Industrial Users

A serious regulatory impact of placing a low priority on pretreatment is the existence of unregulated categorical industrial users (CIUs) in POTWs without approved pretreatment programs. At least 22 CIUs discharge into Central Valley POTWs without approved programs (see the attached Table 3e). These CIUs escape regulation entirely, since the State has not been directly regulating industrial users. The unintended result is that POTWs provide havens for CIUs, allowing them to avoid the nationwide requirements of their Federal categorical standards. Most of these unregulated CIUs are never sampled for toxics, but the few that were and had usable toxics sampling data in the files violated Federal standards (*Dana Circuits, Guardian, S&S Plating, Trilogy Magnetics*).

Most of the 22 unregulated CIUs identified in this review discharge to POTWs in the northern end of the Central Valley. However, it would be misleading to conclude that most of the unregulated CIUs reside there. The difference has more to do with the Redding office's concerted efforts to find them. The State should complete its project to find all of the significant industrial users in the POTWs' jurisdiction without approved pretreatment programs. RWQCB 5 should then directly regulate the CIUs in non-approved POTWs. Direct regulation would entail issuing WDR permits with the applicable Federal standards and self-monitoring requirements, conducting inspections, collecting compliance samples, and taking enforcement when necessary. The regulatory responsibilities would become the local POTWs upon approval of the POTW's pretreatment program.

Inadequately Regulated Categorical Industrial Users

A second regulatory impact of placing a low priority on pretreatment is inadequately regulated CIUs in POTWs with approved pretreatment programs. Eight (33 percent) of the 24 CIUs inspected by EPA during the 1996 pretreatment audits of Sacramento and Stockton identified POTW-issued industrial permits which either incorrectly applied standards, or permitted dilution as a substitute for treatment, or were inadequately enforced (*A-1 Plating, Advanced Plating, Alta Plating, Aerojet, Campbell Soup, Georgia-Pacific, McClellan AFB, R-Squared Circuits*). These program errors, which were unidentified by RWQCB 5 oversight work, resulted in numerous and, in some instances, serious violations of the Federal categorical standards by the industrial users. A greater prevalence of similar errors is expected at the smaller POTWs with fewer resources and less expertise and experience than Stockton and Sacramento.

Ineffective POTW Enforcement

A third regulatory impact of placing a low priority on pretreatment is overmatched POTWs that are unable to cause their industries to comply. Many of the chronic environmental problems in the Central Valley related to pretreatment can be traced to locally powerful industries which do not fully respond to the POTW's efforts. RWQCB 5 should directly enforce against the industrial users which cause chronic environmental problems. See the previous section on *Environmental Results*. This is a State-wide issue, as discussed in Appendix A.

Need for Direct Enforcement

A fourth regulatory impact of placing a low priority on pretreatment is RWQCB 5 enforcement against the POTWs that does not obtain the desired compliance because the POTW is unable to cause their industrial users to comply. RWQCB 5 has conducted protracted enforcement against a number of POTWs without obtaining compliance because the noncompliance is caused by locally powerful industrial users (*Gustine, Livingston, Newman, Visalia*). In each case, direct enforcement against the industrial user by the State would have resolved the cause of the violations.

EPA CONCLUSIONS SUMMARY--PRETREATMENT

Strengths

1. RWQCB 5 incorporates pretreatment requirements into the permits for most POTWs including those without surface water discharges, in keeping with the regulatory objectives to prevent environmental problems related to industrial contributions, and to improve the opportunities to recycle wastewaters and sludges.
2. The Redding office designates one person to do much of the work related to pretreatment, providing the in-depth expertise necessary for the program.

Required Changes--State-wide Issues

1. Either the SWRCB, RWQCB 5, or some combination of RWQCBs, must develop the necessary program expertise in industrial wastewater treatment, the Federal categorical standards and pretreatment regulations, and industrial user permitting and oversight, in order to fulfill the requirements of the APM and to effectively implement the pretreatment program.
2. RWQCB 5 should directly enforce against the industrial users which cause chronic environmental problems at any POTWs.

Required Changes--RWQCB 5

1. RWQCB 5 must implement a pretreatment program that prevents the environmental problems caused by industrial contributions to POTWs, in accordance with regulations in

40 CFR 403 and the APM. Nearly half of the Central Valley POTWs with significant industrial users experienced recent instances of pass-through, interference, or sludge contamination.

2. RWQCB 5 must identify the significant industrial users discharging to POTWs without approved pretreatment programs and directly regulate their categorical industrial users to meet the federal categorical standards, in accordance with 40 CFR 403.10 and the APM. At least 22 unregulated categorical industrial users currently discharge to POTWs without approved programs.
3. RWQCB 5 must develop and approve pretreatment programs for the POTWs that now qualify for them, in accordance with 40 CFR 403.10 and the APM. There are at least six qualifying POTWs awaiting approval.
4. RWQCB 5 must review and approve all modifications to the approved pretreatment programs, in accordance with 40 CFR 403.10 and the APM. At least eight POTWs are awaiting approval of their local limit proposals.

Other Suggestions

1. The permit language for pretreatment is not consistent. For approved programs, the permits should incorporate the expanded language of the Roseville permit. Other POTW permits should incorporate language comparable to the Red Bluff permit, and add a requirement to disclose new industrial sources comparable to the Gustine permit.
2. The RWQCB 5 workplan for pretreatment oversight should involve comprehensive audits in the year prior to permit reissuance and yearly on-site reviews of the approved programs experiencing any environmental or regulatory problems.

ENFORCEMENT

EPA Evaluation Procedures

EPA's NPDES enforcement review consisted of four parts:

1. A review of the Memorandum of Agreement (MOA), portions of the Administrative Procedures Manual (APM), and applicable portions of recent CWA Section 106 Work plans.
2. A review of RWQCB 5's case files at the Sacramento, Fresno, and Redding offices on a subset of recent enforcement actions, to verify that appropriate procedures are being followed and that enforcement is not only effective but efficient. The cases, as listed below, were selected to be illustrative of the main legal and technical issues currently encountered by RWQCB 5 during enforcement activities. (See also the Storm Water and Pretreatment Sections of this report.)

    - Sacramento office: *Auburn, Grass Valley, Hunt-Wesson, Modesto, Newman, Original 16-to-1 Mine, Placer County, Port of Stockton, Siskon Gold;*
    - Fresno office: *Culter-Orosi, Gustine, Livingston, Merced, Nugget Oil, Reedley, Visalia*;

- Redding office: *Bell Carter Olives, California Department of Fish and Game (CDF&G) at Lake Davis, Calaveras Cement, Chico, Fawndale Rock, Mining Remedial, Qwest, Red Bluff, Sierra Pacific*.

3. A review of the Discharge Monitoring Reports (DMRs) and annual pretreatment reports to verify whether RWQCB 5 identifies NPDES permit violations.
4. Interviews with RWQCB 5 staff involved in the selected enforcement cases.

Enforcement Procedures

The enforcement procedures to ensure discharger compliance for RWQCB 5 are set forth in the SWRCB's APM, Water Quality, Chapter 6. The APM applies State-wide to all RWQCBs and includes the SWRCB's *Water Quality Enforcement Policy* (Resolution No. 96-030, as amended by Resolution No. 97-085) as well as the *Guidance to Implement the Water Quality Enforcement Policy*, as amended September 1997. The policy and guidance identify the types of violations that are to be considered for enforcement by the RWQCBs, and specify the types of available actions:

1.Informal Enforcement
· Telephone contact/follow-up letter
· Notice of Violation Letter
2.Time Schedule Orders (TSO)
3.
4.
5. Cleanup & Abatement Orders (CAO)
6. Modification or Rescission of WDR
7. Administrative Civil Liability (ACL)
8. Referrals for Judicial Action

Notices to Comply
· Attorney General
Cease and Desist Order (CDO)
· District Attorney

RWQCB 5 does not have a separate policy to determine which formal or informal action to take or to recommend to its Board. However, it appears that three principles are behind RWQCB 5's actions, as follows.

1. RWQCB 5 matches the level of its enforcement response to the severity of the violations, thus often bypassing lower level actions if the violations so warrant.
2. RWQCB 5 generally escalates enforcement according to a violator's response to a previous enforcement action.
3. Enforcement progresses up through administrative civil liability actions for penalties, but rarely extends to referrals for judicial action, and never extends to permit rescission.

RWQCB 5 uses a number of computerized tracking systems to manage surveillance information, self-monitoring results, violations (see discussions in the Compliance Section of this report), and enforcement actions. In particular, each RWQCB 5 office keeps track of the enforcement history, compliance deadlines, and compliance status for each formal enforcement action in a database that is accessible to the entire staff.

Enforcement--EPA Conclusions

The wide range of programmatic responsibilities (including a number unrelated to the Clean Water Act) involve much more enforcement-related work for RWQCB 5 than there are resources available, thus setting the context for the following EPA conclusions concerning RWQCB 5's enforcement. EPA has worked with the SWRCB to develop NPDES program cost factors to serve as the basis for determining the resources required to implement the NPDES program in California. These cost factors are presently being used by the SWRCB to project NPDES program resources needs.

Prompt Enforcement Response

RWQCB 5 takes prompt enforcement actions that address every identified violation by major and minor NPDES permitted dischargers. This responsiveness extends even to the more difficult and contentious types of enforcement such as Administrative Civil Liability Complaints (ACLCs) assessing monetary penalties. From July 1, 1997 to December 30, 1998, RWQCB 5 issued 40 formal enforcement actions including six ACLCs. This level of formal enforcement is generally consistent with RWQCB 5's averages over the recent past. From July 1, 1995 to December 30, 1998, RWQCB 5 issued 108 formal enforcement actions including 26 ACLCs, an average of seven ACLCs and 24 other formal actions per year. RWQCB 5 also issued many informal enforcement actions including written Notices of Violation (NOVs). A summary of RWQCB 5's formal enforcement actions can be found in the attached Table 4.

There are also at least 20 other formal enforcement orders issued prior to July 1, 1995, that are still in effect, with final compliance deadlines extending past June 30, 1998. This level of enforcement over time produces a significant workload in both new case development and existing case management.

Enforcement Effectiveness

Most of the 25 enforcement actions reviewed by EPA were effective in both compelling the violator into compliance and supporting the overall water quality program. Several noteworthy enforcement cases involving penalties particularly illustrate RWQCB 5's resolve and success in overcoming legal, political and technical difficulties *(Bell Carter Olives, CDF&G at Lake Davis, Modesto-ammonia toxicity*). In addition, all RWQCB 5 violators needing improvements were subject to enforceable compliance schedules with specified interim and final compliance deadlines. These schedules set forth various compliance requirements, including wastewater treatment plant expansion and upgrades, pretreatment program development, development and implementation of storm water pollution prevention plans, salt control plans, ground water clean-ups, and cessation of illegal discharges.

However, some RWQCB 5 enforcement has not been effective in compelling timely compliance (*Gustine, Livingston, Newman, Nugget Oil, Reedley, Visalia*). These facilities have elicited multiple enforcement actions over their many years of non-compliance and have consumed a disproportionately large amount of RWQCB 5's staff and Board resources. The

reasons behind the ineffectiveness of these enforcement actions appears to be related to an unwillingness to enforce against industrial users or regularly employ judicial enforcement. RWQCB 5 should instead directly enforce against the industrial users which cause chronic environmental problems at the POTWs, as discussed in the Pretreatment Section of this report, and consider these situations as candidates for judicial enforcement when so warranted.

Enforcement Response Plan

A clearly defined enforcement response plan, approved by RWQCB 5's Board, would aid both the staff and the Board in justifying decisions concerning enforcement, particularly those involving difficult legal and technical issues. An enforcement response plan appears to be especially needed to define when to refer cases for judicial litigation and when to enforce directly against industrial users. Judicial litigation or direct enforcement against industrial users would have likely resolved long-term violators' compliance problems more quickly. A useful enforcement response plan should outline and define the types of violations and conditions that elicit each type of enforcement action. In particular, it should specify the level of enforcement for violations that result in measurable environmental harm such as salt impairment and sludge contamination or for the failure to meet compliance schedule deadlines. It should also define clearly the violations and conditions that result in a penalty as a consequence. This sort of plan, approved by the Board, would then clearly express RWQCB 5's policies and intentions.

Economic Benefit of Noncompliance

National EPA policy, the MOA, and State policies including the APM all call for penalty actions to recover the economic benefit of noncompliance. Therefore, RWQCB 5 must base its penalty actions on a calculation of how much money a violator saved by not complying on time. The strength of this rationale is fairness, which is easily articulated and generally understood by the public. Dischargers have incentive to spend the money needed to comply when they know that violators will have to comply and pay RWQCB 5 a penalty at least equal to the costs they avoided. Avoided costs can include delaying capital expenditures, or not paying for operations, maintenance, engineering, sampling, or reporting. Moreover, potential disputes over the amount of the penalty are limited primarily to the technical issues in calculating the economic benefit of noncompliance rather than the subjectiveness of other penalty amounts. Finally, delay is not in the best interest of the violator since the penalty escalates with an increase in the duration of noncompliance.

In accordance with EPA policy, the MOA, and the APM, economic benefit amounts must not be reduced or rescinded as an incentive towards achieving compliance or as an off-set for supplemental environmental projects or compliance costs. In contrast, most penalty actions developed by RWQCB 5, as well as other RWQCBs State-wide, are usually subjective as proposed and often rescinded or reduced by the Boards without explanation (*Bell Carter Olive, Calaveras Cement, Fawndale Rock, Livingston, Nugget Oil, Qwest, Sierra Pacific-Quincy*). This logic inappropriately gives violators incentive to delay expenditures toward compliance until caught, and then delay payment of any penalty until reaching compliance. This is a State-wide issue, as discussed in Appendix A.

EPA CONCLUSIONS SUMMARY--ENFORCEMENT

Strengths

1. RWQCB 5 is commended for taking prompt enforcement actions that address every identified violation by major and minor NPDES permitted dischargers.
2. RWQCB 5 has taken several noteworthy enforcement cases involving penalties which illustrate RWQCB 5's resolve and success in overcoming legal, political, and technical difficulties.

Required Changes--State-wide Issues

1. RWQCB 5's penalty actions (ACLCs) need to comply with State penalty policies. Economic benefit amounts must not be reduced or rescinded as an incentive toward achieving compliance or as an off-set for supplemental environmental projects. Compliance with State penalty policies, including recovery of economic benefit resulting from noncompliance, is of State-wide concern, as discussed in Appendix A.
2. RWQCB 5 should directly enforce against industrial users which cause chronic environmental problems at any of the POTWs.

Required Changes--RWQCB 5

None.

Other Suggestions

1. RWQCB 5 should develop and implement a clear rationale (enforcement response plan) for selecting appropriate enforcement responses.
2. RWQCB 5 should establish and apply clear criteria for penalty actions in response to violations and conditions, so that penalty actions will not be reduced or rescinded as an incentive towards achieving compliance.
3. RWQCB 5 should consider referring contentious and difficult enforcement cases for judicial action.

Attachment--Table 1
RWQCB 5 NPDES PROGRAM ORGANIZATION CHART

<table>
<tr><td colspan="7">RWQCB Board</td></tr>
<tr><td colspan="7">Executive Officer (EO)</td></tr>
<tr><td colspan="3">Assistant EO
Sacramento Office</td><td colspan="2">Assistant EO
Redding Office</td><td colspan="2">Assistant EO &
Enforcement Coordinator
Fresno Office</td></tr>
<tr><td colspan="3">NPDES Units</td><td colspan="2">NPDES Units</td><td colspan="2">NPDES Units</td></tr>
<tr><td>Sacramento River Watershed</td><td>San Joaquin River Watershed</td><td>Land Discharge/ Dairies</td><td>Regulatory</td><td>Mining, SLIC, Tanks, Timber Harvest</td><td>Agriculture & Regulatory</td><td>Regulatory</td></tr>
<tr><td colspan="2">2 Seniors + 9 staff</td><td>Senior
+ 4 staff</td><td>Senior
+ 7 staff</td><td>Senior + 5 staff</td><td>Senior
+ 4 staff</td><td>Senior
+ 4 staff</td></tr>
<tr><td colspan="2">NPDES permitting, compliance & enforcement; storm water permitting compliance & enforcement; pretreatment</td><td>AFOs permitting, compliance & enforce-ment; QNCR coord.; WDS</td><td rowspan="3">NPDES permitting, compliance, & enforcement; pretreatment; AFOs permitting, compliance, & enforcement; WDS</td><td rowspan="3">Storm water permitting, compliance, & enforcement</td><td>NPDES permitting, compliance & enforcement; storm water permitting, compliance, & enforcement; pretreatment; AFOs permitting, compliance, & enforcement; WDS</td><td>WDS</td></tr>
<tr><td>Alpine, Colusa, Glenn, Lake, Napa, Nevada, Placer, Sacramento, Sierra, Solano, Sutter, Yolo, & Yuba Counties</td><td>Alameda, Alpine, Calaveras, Contra Costa, San Joaquin, & Tuolumne Counties</td><td>San Joaquin River Watershed</td><td>Kern & Tulare Counties</td><td>Fresno, Mariposa, Madera, Merced, & Kings Counties</td></tr>
<tr><td colspan="7">Two SWRCB Counsel are assigned to RWQCB 5 to provide assistance on legal matters.</td></tr>
<tr><td colspan="7">NOTE: This chart is not inclusive of all RWQCB 5 functions; its purpose is to emphasize RWQCB 5 NPDES-related functions, activities, and responsibilities.</td></tr>
</table>

Attachment--Table 2
RWQCB 5 NPDES PERMITTED FACILITIES

Permit Type	**Sacramento Office**	**Redding Office**	**Fresno Office**
Individual Discharger	31 majors [1] 122 minors	13 majors [1] 70 minors	9 majors [1] 54 minors
Non-Storm Water General	3 categories	2 categories (0 enrollees)	2 categories (2 enrollees)
Municipal Storm Water	4 cities/counties [2]	None	2 city/counties [3]
General Permits–AFOs AFOs-Total Number Dairies (Included in Total)	 1200 400		 600 350
Industrial/Construction Storm Water General Permit NOIs	1,026 industrial 851 construction	145 industrial 83 construction	528 industrial 239 construction

[1] Major municipal discharges have a design flow greater than one million gallons per day (mgd) or an EPA/State-approved industrial pretreatment program. Major industrial discharges are determined based on specific ratings criteria that have been developed by EPA and the State. Minor discharges are all remaining discharges.

[2] Sacramento office MS4s: County of Sacramento (3 co-permittees); City of Antioch and Contra Costa Flood Control District; City of Stockton/County of San Joaquin; City of Modesto

[3] Fresno office MS4s: City of Fresno/Fresno County; City of Bakersfield/Kern County

Attachment--Table 3a
RWQCB 5 POTWs WITH SIGNIFICANT INDUSTRIAL USERS (SIUs)

Approved Pretreatment Programs	Flow mgd	SIUs	CIUs	Without Approved Pretreatment Programs	Flow mgd	SIUs	CIUs
Bakersfield*	37.0	23	1	Anderson	2.0	-	-
Davis	5.3	5	0	Atwater	6.0	3	0
Fresno*	55.0	61	8	Chester	0.8	1	1
Lodi	5.8	13	7	Chico	6.0	6	6
Madera*	7.0	8	3	Colusa	0.6	1	0
Merced	10.0	9	4	Corning	1.4	2	0
Modesto	56.7	21	4	Galt	3.0	5	2
Newman	1.6	4	0	Gustine*	1.2	3	0
Redding	4.0	9	4	Hanford*	5.5	1	1
Roseville		9	8	Livingston*	0.7	2	0
Sacramento County	18.0	72	39	Olivehurst	1.8	-	-
Selma-Kings-Fowler*	181.0	10	4	Oroville	6.5	6	5
Stockton	8.0		18	Orland*	2.1	3	0
Tracy	38.0	39	0	Quincy	1.6	1	1
Turlock	9.0	3	1	Red Bluff	1.9	2	2
Vacaville	20.0	14	9	Reedley	2.8	2	2
Vacaville Industrial	10.0	14	0	Ripon*	2.4	1	0
Visalia	1.4	2	9	Sanger*	3.0	2	0
West Sacramento	16.0	20	1	Shafter*	1.8	-	-
Woodland	7.5	19	1	Shasta Lake	1.3	2	2
Yuba City	6.0	7	0	Taft	1.2	-	-
	7.0	1		Tulare*	6.1	8	0
* *non-NPDES*							
Totals - 21 POTWs	504	363	121	Totals - 22 POTWs	59.7	51	22

Attachment--Table 3b
RWQCB 5 RECENT INSTANCES OF PASS-THROUGH AT POTWs

Central Valley POTW	Identified Instances of Pass-Through	Industrial Source
Bakersfield*	1997 - single high salts over EC limit	unidentified
Orland	1996 - high salts over EC limit	unidentified
Reedley	1997 to present - high salts over EC limit	Safety Clean
Taft	1996 - high oil & grease concentration	unidentified
Tulare	1997 to present - high salts over EC limit	Dairyman's, et al.
Visalia*	1991 to present - high salts over EC limit	Early California
Woodland*	1997 to present - toxicity from pesticides	Woodland Poly, et al., *tributyltin*
	* w/ approved pretreatment program	

Attachment--Table 3c
RWQCB 5 RECENT INSTANCES OF WWTP INTERFERENCE

Central Valley POTW	Identified Instances of Interference	Industrial Source
Bakersfield*	1996 - fuel oil spill impaired primaries	unidentified
Chico	1996 - explosions in the sewers	unidentified
Gustine	1990 to present - TSS/biotox violations	Beatrice, et al.
Livingston	1997 to present - salts clog perc ponds, causes unpermitted surface water disch	Fresenius Medical
Newman*	1997 - BOD/TSS loading violations	Tartaric Mfg
West Sacramento*	1997 - surfactants cause TSS violations	Vulcan Chemical
Yuba City*	1997 - flow drop causes NH4 overdose	Sunsweet Growers
	* w/ approved pretreatment program	

Attachment--Table 3d
RWQCB 5 INSTANCES OF WWTP SLUDGE CONTAMINATION

Central Valley POTW	Instances of Sludge Contamination	CIUs (MetalFinish)
Anderson	1994 - lead from unknown source	0
Modesto*	1996 - arsenic from unknown source	4 (3)
Oroville	1992 - lead from unknown source	5 (3)
Redding*	1995 - cadmium from plating shop	4 (4)
Reedley	1997 - copper from mirror mfg	2 (1)
Quincy	1994-95 - Pb Cu Zn from unknown src	1 (1)
Stockton*	1995 - As Pb Ni from unknown source	18 (14)
Vacaville*	1996 - arsenic from unknown source	9 (2)
Visalia*	1995 - lead from shutdown battery mfg	9 (4)
	* w/ approved pretreatment program	

Attachment--Table 3e
RWQCB 5 UNREGULATED CATEGORICAL DISCHARGERS

Central Valley POTW	Categorical Industrial Users (Fed Category*)
Chester	Elmanor Metal Finishing-433
Chico	Aero Union-433, CSU Chico-433, Chrome Works-433 Lares Research-433, Suter Dental Mfg-433, Wrex-464
Hanford	Pirelli-Armstrong-428
Galt	SWRCB identified two 433's
Oroville	Pacific Oroville Power-423, Mr. Wizzard's PC Shop-433, Koppers-429, Spectra Physics-433, Chico Metal Finish-433
Quincy	Trilogy Magnetics-433
Red Bluff	Dana Circuits-433, Electro Star-433
Reedley	Guardian-433, Safety Clean-421LX
Shasta Lake	S&S Plating-433, Chris King Cycle-433
	*421LX-precious metals recovery, 428-rubber manufacturing, 429-wood preserving, 433-metal finishing, 464-metal casting

Attachment--Table 4
RWQCB 5 NPDES ENFORCEMENT ACTIONS INVENTORY, 1996 - 1999

Number of Formal Actions	FY96 7/95-6/96	FY97 7/96-6/97	FY98 7/97-6/98	FY99 7/98-12/98
Referral for Criminal Litigation	0	0	0	1
Referral for Civil Litigation	1	0	0	0
Admin Civil Liability Complaint	13	7	4	2
Cease and Desist Order	17	15	11	7
Clean-up and Abatement Order	8	7	11	4
Permit Rescission or Modification	0	0	0	0
Time Schedule Order	0	0	0	0
Fiscal Year Totals	39	29	26	14